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# FRDS Final Report

Cincinnati Univ, OH Southwestern Ohio Regional Computer Center

Prepared for

Environmental Protection Agency, Washington, DC Office of Drinking Water

1979

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The purpose of the report is to examine the Federal Reporting Data System training project to determine its effectiveness in developing and delivering a week-long training program using content-knowledgeable trainers from three separate organizations located some distance from one another. The FRDS computer system was designed to accept data which the National Safe Drinking Water Act (NSDWA) required States (and Regions acting as surrogate States) to submit to the Federal Government.

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# FRDS FINAL REPORT

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# FRDS FINAL REPORT

Prepared for the

U.S. Environmental Protection Agency
Office of Drinking Water
Washington, D.C. 20460
Contract No. GS-05S-10458

by the

University of Cincinnati Computer Center/
SouthWestern Ohio Regional Computer Center
Cincinnati, Ohio
1979

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Joseph L. Bagby
Training Manager

# I. MANAGEMENT SUMMARY

In August, 1978, the Office of Drinking Water (ODW) of the U.S. Environmental Protection Agency (EPA) contracted with the SouthWestern Ohio Regional Computer Center (SWORCC) to design and coordinate training concerning the Federal Reporting Data System (FRDS) for selected trainees from the ten EPA Regions. The target date for completion of the training was December 15, 1978.

A four-person training team was established which consisted of one content-knowledgeable training representative from each of three organizations with different types of involvement in the Federal Reporting Data System, and a training team manager from the SouthWestern Ohio Regional Computer Center. The training team engaged in team development and training design activities during the months of September and October, 1978. The team development activities concentrated on identifying and reinforcing interpersonal behaviors and attitudes which facilitate effective teamwork. The training design activities consisted of developing a training curriculum with content consistent with the needs of both the Office of Drinking Water and the trainees; and of developing training processes that would maximize learning for the trainee population.

Week-long training sessions were conducted at the three EPA Regional offices located in Philadelphia, Chicago, and San Francisco. A total of 22 people attended these sessions. The first training session was conducted during the week of November 13, 1978, and the final session during the week of December 4, 1978. A representative from the Office of Drinking Water monitored each session.

The trainees were asked to respond to an extensive training evaluation questionnaire at the completion of each training session. The results of these evaluations were very favorable, indicating high trainee satisfaction with the job-related utility of the presented material, the quality of the materials and handouts used, and the open, supportive learning climate created by the training team.

In conclusion, the overall evaluation results of the FRDS training project strongly support the feasibility of future training programs using content-knowledgeable trainers from different organizations. Specific recommendations for future training of this nature are:

- Training team development activities be clearly matched to the needs of the training team members.

- Client objectives be explicitly understood at the beginning of such projects.

- Role clarity be recognized as essential for training team members (especially in the area of management/control issues).

- Adaptive, problem-solving attitudes be modeled by top management.

- Direct communication between the training team and trainees prior to the training be effected to maximize the probability of establishing an optimum learning climate.

## II. INTRODUCTION

### PURPOSE OF REPORT:

The primary purpose of this report is to examine the Federal Reporting Data System training project to determine its effectiveness in developing and delivering a week-long training program using content-knowledgeable trainers from three separate organizations located some distance from one another.

### BACKGROUND:

In August, 1978, ODW requested that SWORCC develop a training program in conjunction with Computer Sciences Corporation (CSC) and Systems Development Corporation-Integrated Services, Incorporated (SDC-ISI) to train EPA Regional personnel in the use of the Federal Reporting Data System. Since the Regional personnel were already familiar with the specific data requirements of FRDS, the training curriculum was to cover information collection methods, preparation or reformatting of data for input into the system, editing procedures, Research Triangle Park (RTP) UNIVAC facility requirements, and data retrieval procedures.

The FRDS computer system was designed to accept data which the National Safe Drinking Water Act (NSDWA) required States (and Regions acting as surrogate States) to submit to the Federal Government. The implementing regulations required that the data be submitted to the FRDS system for data base update no later than February 1, 1979. This restraint forced a target date of December 15, 1978, for completion of all FRDS training to allow sufficient time for data collection, formatting, and entry by the stated deadline.

In early discussions, representatives from ODW, SWORCC, SDC-ISI and CSC agreed that the general approach to the FRDS training would be that used by SWORCC in the Model State Information System (MSIS) training program. Verbal agreements between SWORCC and ODW were made at the onset of the project as follows: (1) SWORCC, CSC, and SDC-ISI would each furnish a content-knowledgeable representative for the training. (2) Organizational team members would be committed to the project and supported by their respective organizations. (3) Each team member would be guaranteed the time necessary to complete all tasks associated with the training. (4) Each organization would provide a qualified backup who, although not directly involved in the training, would be available to assist the primary representative as needed. (5) The program would have an evaluation component.

In its performance of the FRDS contract, SWORCC was operating under several unwritten and unspecified assumptions: (1) The backup would not be involved in the training unless the primary presenter was unable to attend one of the training delivery sessions. (2) SWORCC would be consulted by ODW on a managerial level, and joint decision-making procedures would be used. (3) The original team member designated by each organization would not be replaced.

A four-person training team consisting of three trainers and a manager was identified. SWORCC, CSC and SDC-ISI each provided a content-knowledgeable person who was responsible for developing and presenting content. The team manager was from SWORCC.

The CSC team member was responsible for the portion of the curriculum which covered the detailed FRDS system design and System 2000 natural language commands needed to update the data base. The SDC-ISI team member was responsible for curriculum relevant to the National Computer Center (NCC) facility at RTP. Because FRDS was maintained on the NCC facility, it was necessary for the training participants to learn how to enter data, edit data for input to the data base, and access data for retrieval using the UNIVAC computer. The SWORCC team member was responsible for curriculum on the data itself as compiled on, or in a manner comparable to, MSIS. MSIS is being used by a large number of States and Regions to fulfill the NSDWA reporting requirements. Since FRDS was designed to accept data in the MSIS format, a working knowledge of MSIS was a necessary part of the curriculum.

TEAM TRAINING APPROACH:

A team training approach is most appropriate for training programs which place high mental and physical demands on the trainers. The team approach allows for the specialization of functions in both content and process areas ("content" refers to what is taught while "process" refers to how it is taught). This specialization of functions can result in greater operating efficiencies and effectiveness in certain training situations. FRDS, because of its natural division of content and the intensive presentation schedule, was an ideal candidate for the team approach; and SWORCC was able to draw upon its past successes in developing effective training teams for the FRDS project.

A heavy emphasis is placed by SWORCC on the training of individual instructors. SWORCC attempts to provide its instructors with an awareness of effective teaching methods and encourages and facilitates the practice of these methods during training. The use of training teams adds another

dimension to the "training of trainers" process - that of group relations. SWORCC applies validated models of group dynamics in designing training team development activities. Some key elements in these models are discussed below.

By definition, a team is a number of persons working toward a common goal by associating in joint actions. Therefore, a training team can be defined as a group of persons who establish common training goals and engage in joint actions to develop and conduct a training course. To determine what joint actions are necessary to develop the training program, a team needs to establish a certain degree of autonomy within given organizational parameters. The members of a team must establish formal methods of operation and maintenance to assure that joint actions are in congruence with each member's needs and expectations. The process of determining productive actions on the part of the team which will accomplish both individual goals, and goals of the team as a unit, requires indepth study and discussion of feelings, attitudes, expectations, behavior patterns, and experiences. Developing effective team norms requires time and, often, the use of a skilled facilitator to monitor the team's progress and provide it with guidance.

Once team norms, or methods of operation, have been established, the training team is ready to determine a set of common training objectives. These objectives must be both specific and measurable. Common objectives are developed to assure that individuals are working toward the same ultimate product, thereby minimizing the possible dispersion of efforts and enhancing collaborative productivity. The training objectives must be consistent with needs of the client (ODW in this case) and needs of those receiving the training. They must also be consistent with adult learning theory.

Helping the trainers to better communicate with each other is essential to developing an effective training team. Through the application of prescribed communication techniques, the trainers should be more effective in making decisions, solving conflicts, monitoring progress, and collaboratively performing the tasks necessary to develop training. They should also be able to communicate more effectively with the trainees during training. Therefore it is desirable to give training team members the fundamental theories and applications of open communication techniques. Open, or two-way, communication can then be practiced between team members as a method of internally promoting continuous improvement of the training program.

Communication centered around improvement of a training program is often stated in critical or evaluative terms. This kind of communciation results in defensive behavior and

ultimately prevents two-way communication from occurring. The trainers need to be given practical examples of statements which promote hostility and defensiveness and those which transfer the same message but allow the listener to remain open; the trainers also need to be given the opportunity to practice open-communication skills. SWORCC places great emphasis on first developing a level of trust among training team members and, when critiquing begins, ensuring that appropriate, non-evaluative feedback techniques are used to minimize unproductive communication. This does not imply that feedback is always positive, but it does mean that trainers should be given techniques which allow communication lines to remain open and nondefensive in nature.

By learning and practicing these communication techniques among themselves, team members should be able to form an internal system of trust and support which would minimize the fear of practicing open-communication techniques during the training sessions. Consequently, the training team would have a method of maximizing participant input and using participants as a resource upon which to allow real-time flexibility during training, thus better meeting participants' needs.

## III. METHOD

This section of the report deals with the procedures used by SWORCC in developing the training team, conducting the training, and evaluating the FRDS program. It begins with an overview of the project design.

### PROJECT DESIGN:

The design proposed to ODW by SWORCC in July, 1978, was modified twice as shown in Figure 1. The original design proposed that representatives comprising the training team would meet and begin project development on August 7, 1978. Two workshops were proposed for a concentrated collaborative effort in program development. Intervals of four and five weeks were allowed for individual preparation between workshops. One-day team meetings were scheduled periodically to monitor the progress of the trainers. The training team would have a total of thirteen weeks to prepare for the initial training session scheduled for the first week of November.

A preliminary meeting with representatives from ODW and all three contractors involved in the project was held on August 1, in Washington, D.C. The purpose of this meeting was to acquaint the participating organizations with the general philosophy used by SWORCC in the design and implementation of the MSIS training, and to outline the general scope of the FRDS Training Project. At this meeting, it was decided the time-line be modified due to the status of the FRDS system and the need for a chief programmer to be involved with both training and system development. Since it was necessary to have the system completed prior to the training, the initial team member contact was changed to September 6, when a two-day preliminary team workshop would be conducted.

Another meeting was scheduled in Washington, D.C. on August 15. This meeting (which SWORCC chaired) was designed to acquaint managers of each organization with the responsibilities of their respective team member and their overall organizational responsibilities. Two organizations were fully represented with a trainer and manager. The third organization was represented by a trainer only. It is believed that the lack of a manager at this meeting contributed to some of the poor organizational coordination which subsequently occurred with the project.

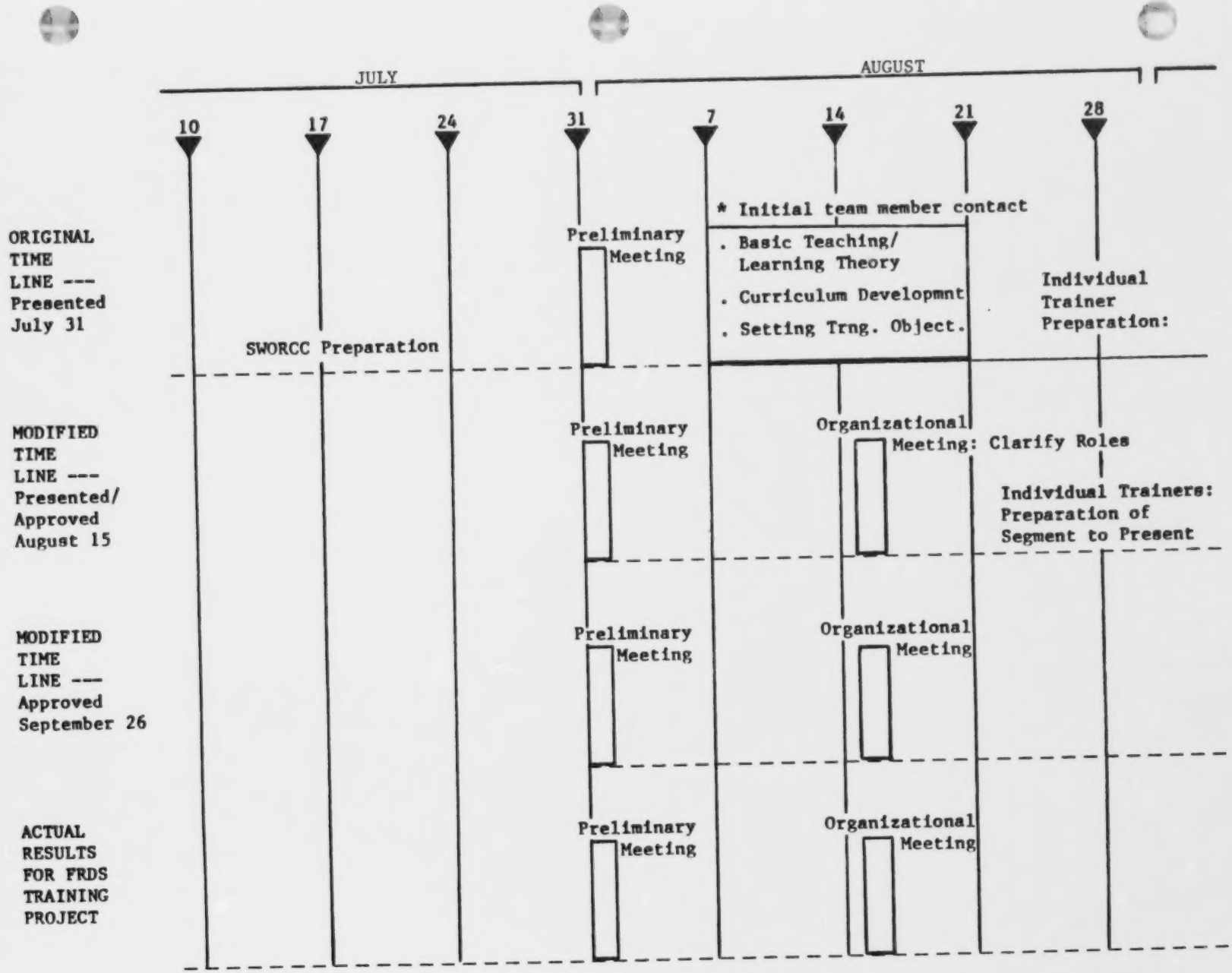



Figure 1 FRDS Design

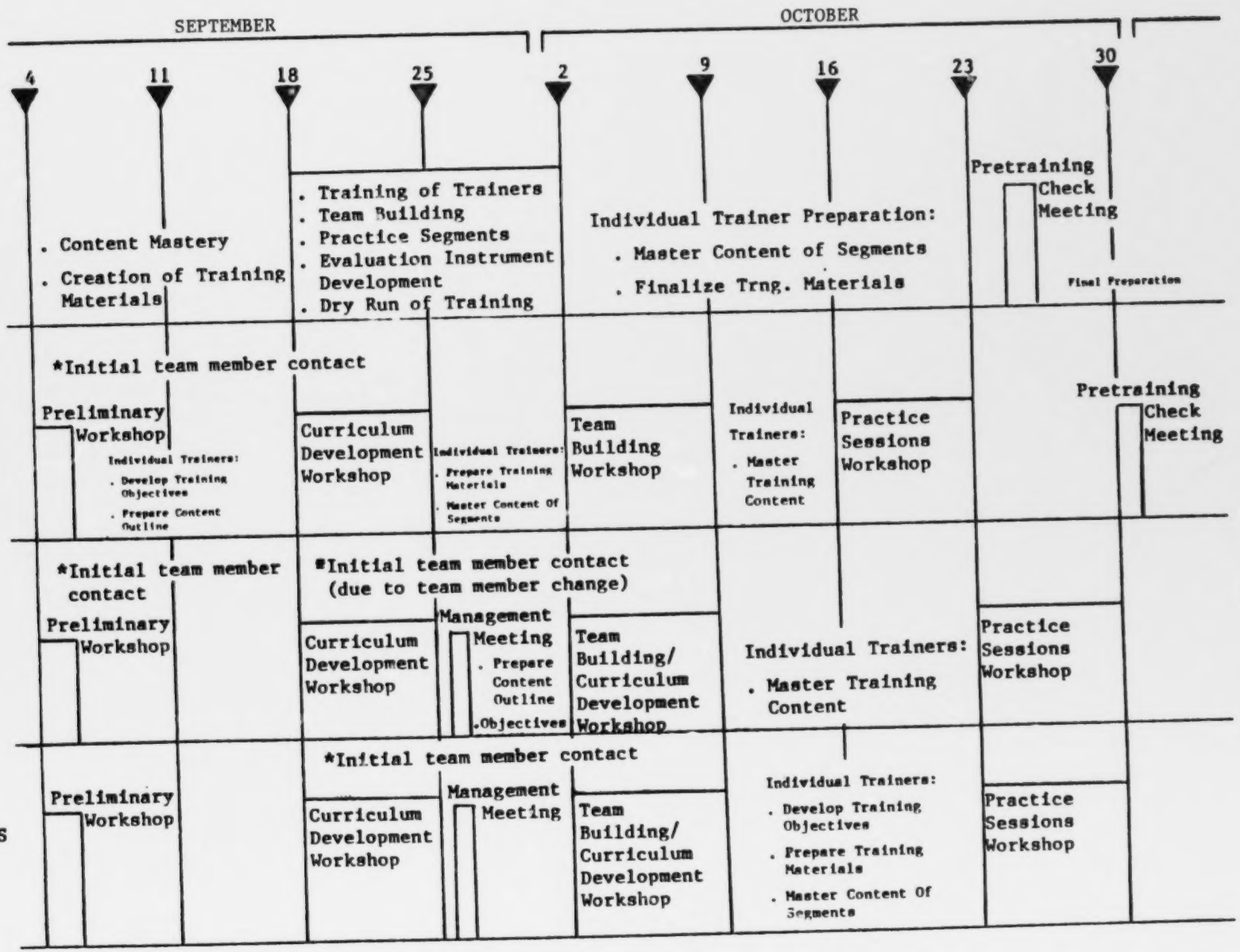



Figure 1 FRDS Design

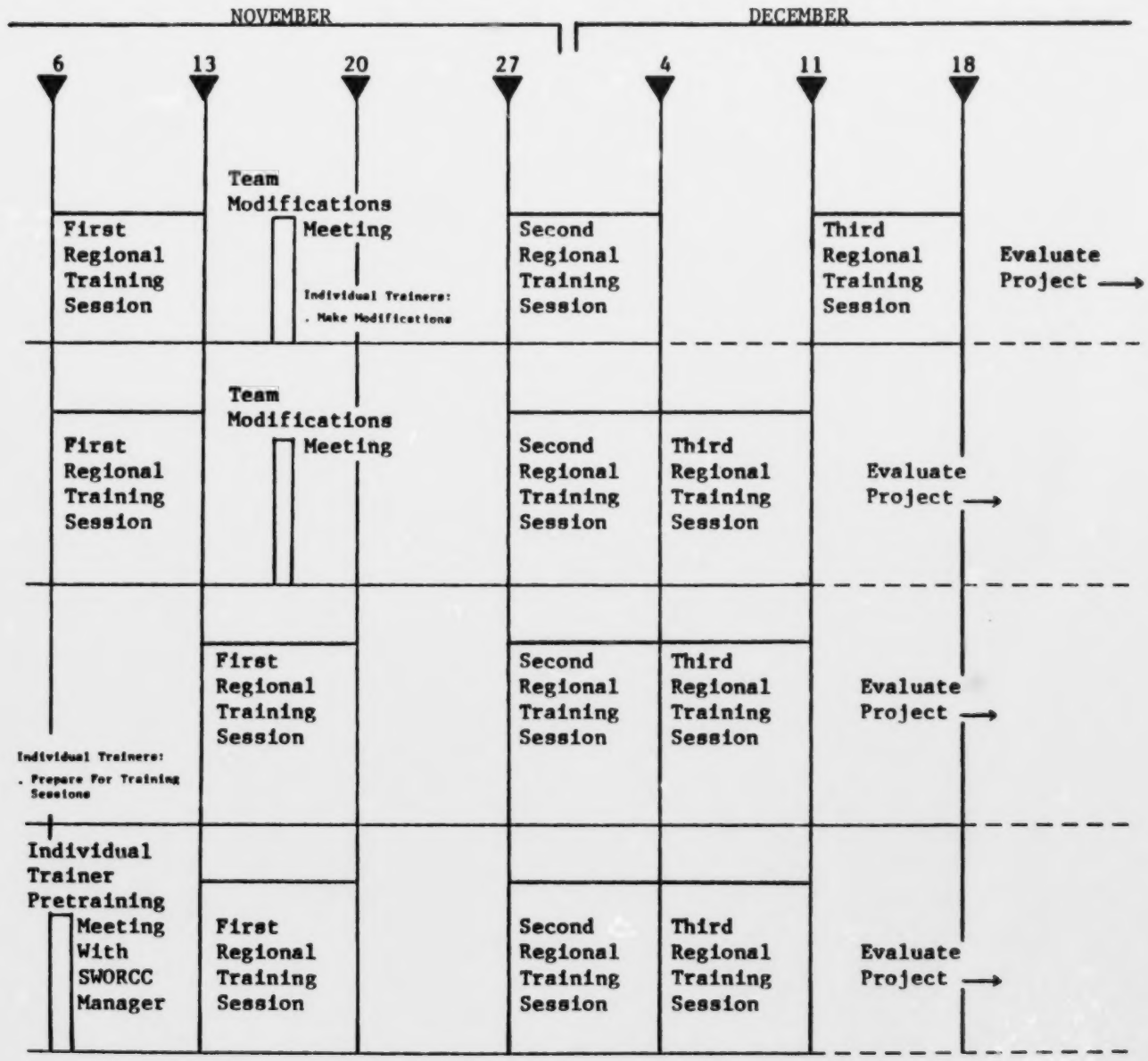



Figure 1 FRDS Design

An organizational chart for the project was established (see Figure 2) showing the client, ODW, in direct communication with each of the three contracting organizations involved. Dotted lines connecting CSC, SWORCC, and SCD-ISI represent communication between the three contractors, with SWORCC in the middle as the coordinating organization. At this meeting, the training design was accepted and approved (see Figure 1).

The time-line was modified a second time after one of the participating organizations, as a result of an internal reorganization, changed its designated trainer and backup. This change occurred just prior to the second team development workshop which began on September 18. The original purpose of this workshop was to develop the training curriculum, however, this was not possible because the new presenter was not content-knowledgeable. A meeting was held in Washington on September 26 to discuss the effects of these team personnel changes, the status of the FRDS system development, and the training program development status. The time-line for program development and implementation was modified by including Saturdays in the remaining team workshop periods and by postponing the first training session until November 13. As a result, the first two training sessions were scheduled with only three working days between them, and the second and third sessions were scheduled consecutively. This meant that the training team had to have materials and logistics fully prepared for all three training sessions prior to the beginning of the first session. Also, continuous improvement of the training program on a formal basis would be limited because of the short time available between sessions, an occurrence which violated the original training design. However, team members planned to meet at the conclusion of each training session to improve the next session based on feedback from the previous training.

The makeup of the FRDS training team was finalized at the September 26 meeting. A technical specialist was named as backup for the new trainer (who was not thoroughly familiar with the system). The backup would assist with curriculum development and be present at the training as a technical resource from Wednesday through Friday. A management team was established which consisted of one management representative from each of the three contracting organizations. The management team was established to improve communication between the contractors in order to reduce the possibility that organizational problems, such as the change in training personnel, would occur in the future. Clear communication channels were established, and it was agreed the coordinating organization would keep the management team members informed of all team activities and individual team member requirements

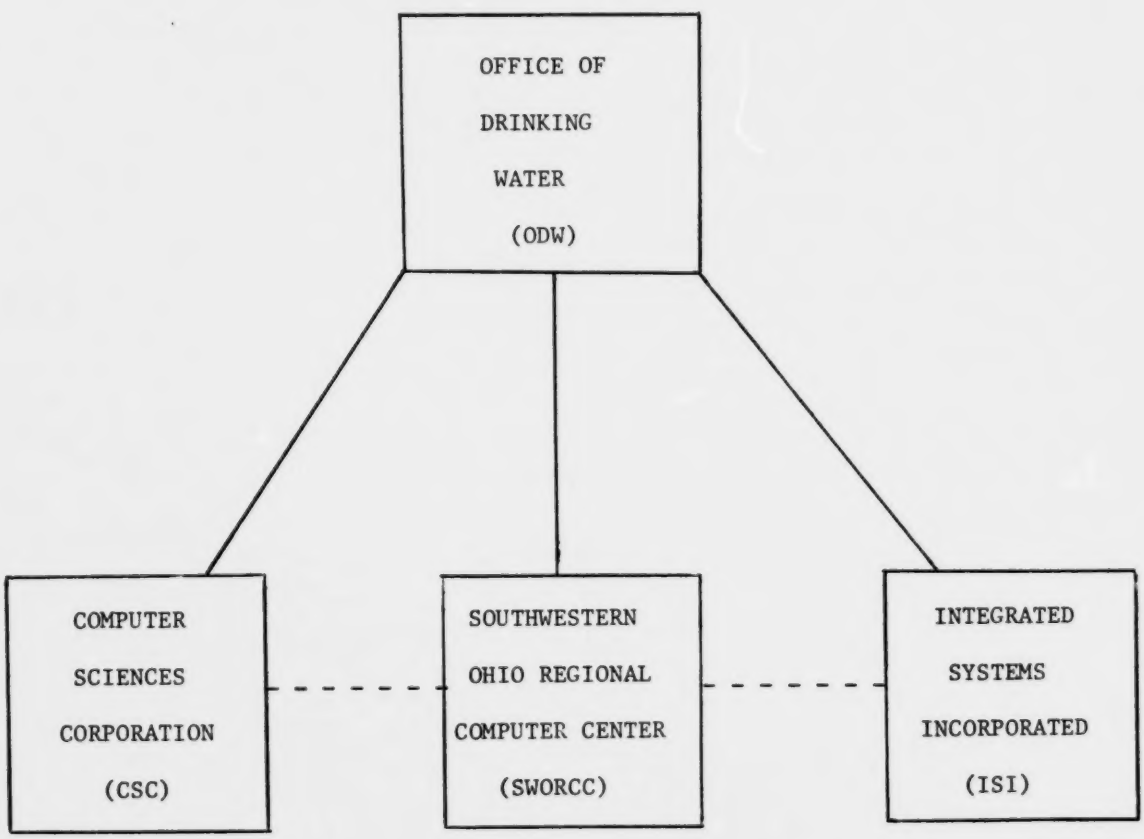
for the remainder of the project. Organizational roles were clarified and responsibilities were prioritized.

Figure 2

ORGANIZATIONAL STRUCTURE

for the

FEDERAL REPORTING DATA SYSTEM TRAINING PROJECT


OFFICE OF DRINKING WATER (ODW)
COMPUTER SCIENCES CORPORATION (CSC)
SOUTHWESTERN OHIO REGIONAL COMPUTER CENTER (SWORCC)
INTEGRATED SYSTEMS INCORPORATED (ISI)

## FUNCTIONAL PHASES OF TRAINING

There were three functional phases in the FRDS project. The first was team development (August 15 to November 13), which included all preparation for the training sessions. Second was the training phase (November 13 through December 8) during which FRDS training was conducted in Philadelphia, Chicago, and San Francisco. Finally, the evaluation phase occurred throughout the FRDS project. These phases are discussed in this section.

### TEAM DEVELOPMENT PHASE:

The team development phase consisted of developing roles and operating norms for the team, designing the curriculum, preparing individual segments, and rehearsing the training prior to the first session. The modified training design of August 15 (Figure 1) established four team development workshops for accomplishing these tasks. The purpose of these workshops and the ways in which they were modified as a result of subsequent events are discussed in the following paragraphs, along with a description of training team roles.

FRDS Training Team Roles. The basic areas of responsibility for team members were established by SWORCC. These roles, and the associated responsibilities, were elaborated upon later by team members, but the basic responsibilities remained consistent as defined below.

The team manager role was created to serve four functions: (1) Perform administrative functions for the team. (2) Serve as an internal consultant to the team by aiding individuals in assessing their effectiveness during both the development and training phases. (3) Observe during training delivery for the purpose of giving objective feedback to trainers to facilitate continuous improvement. (4) Serve as a liaison between team members and SWORCC management. These functions included responsibility for planning and leading the team development activities, coordinating team members' schedules, coordinating and working with the external consultants, documenting activities for dissemination to team members and management personnel, and compiling team internal and external correspondence.

The team captain role was created as an internal team leadership role. Responsibilities included preparation and presentation of approximately one-third of the training session content, coordination of the training presentations of training team members, control of the opening and closing of each training session day, and assurance that the agenda was followed during training sessions. In other words, the team

captain was to provide leadership during the actual training sessions.

The team member role was conceived in functional terms as presenting specific content relevant to the corresponding contractor's involvement with FRDS. Team members' responsibilities included collaborative effort toward development of the training curriculum, presentation of content areas, and support of other team members. Team members were also expected to participate in any designated team activities throughout the duration of the training project.

Each team member had a corresponding backup presenter who would be able to temporarily substitute during training if necessary. This implied that the backups would be kept updated on team activities, would be content-knowledgable for their respective presentation segments, and would be aware of the method of presentation chosen by the original team member. The backup presenters from two of the organizations were never used during the actual training. The third backup person, as previously noted, was used during the training in a manner not originally intended: to augment the limited content-knowledge of the primary presenter who joined the team on September 8.

Preliminary Workshop. In accordance with the time-line established on August 15, the training team met for its first workshop in Washington, D.C., on September 6-7, 1978. The workshop objectives focused on providing a basic foundation of the training philosophies and techniques to be used during the remainder of the project.

The team members spent the first morning defining the various tasks to be accomplished prior to the delivery of the training. Distinguishing individual from jointly-shared responsibilities was emphasized. During August a needs assessment instrument designed by SWORCC had been administered by ODW to persons scheduled to attend the training sessions. The results of this assessment were reviewed by the trainers and implications for the training were discussed. (The results of the needs assessment are shown in Appendix D.2.) The team manager, in conjunction with an organizational development consultant, gave the trainers brief, content-oriented presentations on adult learners, training segment analysis, effective feedback techniques, and measurable objective setting based on training goals. Team members were given additional reading material for study, and individual preparation requirements were given for the next day.

During the second day, the trainers gave a brief presentation in their content area. Questions were asked to

assure that the content-knowledge level was sufficiently deep to meet the training requirement. Background information and technical experiences were shared by each presenter. Feedback was practiced under the guidance of both the team manager and the consultant to ensure that proper feedback techniques were learned, thus moving toward a more productive interaction among team members. The team members practiced developing specific, result-oriented objectives and were given guidelines for individually setting training objectives as preparation for developing a detailed curriculum at the next workshop. The trainers were given instructions on preparing content outlines and breaking them into logical presentation segments. Other topics included specific group procedures such as note taking during the workshops, dissemination of team notes, correspondence, coordination of individual schedules for future workshops, travel arrangements for training sessions, input into the design of the next workshop, reporting on project status, and the role of ODW during the project.

At the conclusion of the workshop the trainers met with ODW representatives and discussed FRDS system status, the nature of the interaction between the trainers and the client, client expectations for the training sessions, reporting procedures for team status, and client interaction with Regional representatives.

Curriculum Development Workshop. The second workshop was conducted on September 18 - 22, 1978, in Cincinnati. The primary objectives of this workshop were to build the detailed training agenda and assign training segments to team members. The last minute substitution of a new trainer by one of the contracting organizations moved the team development phase back, and these objectives were subsequently moved to the next workshop.

A basic curriculum development model was presented by a consultant from the University of Cincinnati College of Education. The consultant stressed that specific objectives were a prerequisite in curriculum development for any educational program. During the week the consultant emphasized the connection between effective learning and motivation. There was discussion about what the trainers were doing and why, and the respective advantages or disadvantages of the week's events, in order to identify and meet trainers' needs.

Activities included discussions of teaching styles, examples of various teaching techniques, explanation of the training philosophy to be used, discussions of participant orientations during the training, and group problem-solving activities. The trainers and backups present at this workshop were given information on how to use objectives to design an

agenda and to instill personal commitment for a group project. Teaching/learning theory, evaluation theory, segment analysis, effective feedback techniques, and team training concepts were reviewed from the last workshop. The team reviewed individual objectives and collectively compiled a set of team objectives for training. The team members were given group dynamics theory related to past training experience. Handouts concerning additional reading in the teaching/learning and behavioral science areas were distributed.

Team Building/Curriculum Development Workshop. The third workshop, Team Building, expanded to incorporate both team building and curriculum development activities, was conducted from October 2 - 8, 1978. The beginning of the week was devoted to team building exercises conducted by an external consultant. The Life Orientation (LIFO) instrument was used to identify personal style preferences and methods for constructively using personal strengths. Team members also participated in decision-making and problem-solving exercises with the guidance of the consultant.

Detailed team role descriptions were individually developed and collectively negotiated. A program evaluation consultant presented the systemic evaluation process and discussed the use of objectives as measurement components in determining the degree of success of training. In conjunction with the team, the consultant reviewed the team objectives developed during the previous workshop and made suggestions for further refinement.

The team members worked collectively to develop a detailed training agenda and the training curriculum. The team chose to work evenings in order to complete the curriculum development phase of the training program. First, individual segments and time requirements were identified, listed, and discussed. The content ratio between presenters for the entire week was determined in order to decide which persons could be available to conduct general segments. A general training theme of Input-Process-Output was agreed upon (Figure 3). Segments were scheduled for the workshop based on time requirements, interspersing trainer's segments throughout the week, and compliance with the general training theme. At the end of this workshop the team members had a detailed training agenda, complete with segment content outlines. This detailed agenda was submitted to ODW for approval prior to finalization. The general training agenda is shown in Figure 4 (a more detailed agenda is shown in Appendix C). Between the end of this workshop and the beginning of the next, team members were responsible for polishing their segments, creating training aids, developing objectives for each segment, identifying problem areas for practice, and

making necessary travel arrangements for the three training sessions.

Practice Sessions Workshop. The Practice Sessions workshop (October 23-28, 1978) was the final team development activity. This workshop was originally designed to be a dry run of the deliverable training program from start to finish. Due to the September 26 changes in the original team development design (Figure 1) such a comprehensive practice session was impossible. The first part of the week was devoted to the use of audio/visual equipment as a source of feedback. Consultants and SWORCC staff were available to trainers on an individual request basis throughout the week for practice and consultation. The team worked to identify and practice problem segments, practice segments which required the participation of more than one presenter, modify the training aids to assure consistency between individual segments, modify and finalize the training agenda (Figure 4), develop specific team training objectives consistent with ODW's objectives, practice transition segments, and prepare for a limited dry run. (Training team and ODW objectives are shown in Appendix A.)

The day-long dry run included at least one segment by each presenter, and segments which were identified by the trainers as problem areas. Interested SWORCC staff, SWORCC training management personnel, and an ODW representative were in attendance at the dry run. Feedback was solicited from participants, and the team manager functioned as the observer. During this final workshop the team conducted a model debriefing in preparation for the daily training session debriefings. The trainers incorporated feedback received from participants in modifying and polishing segments.

On Friday, a meeting was held with SWORCC training management, and the trainers were given specific feedback concerning their state of readiness for the training. Expectations regarding what was necessary to assure readiness were identified and discussed. The SWORCC project manager expressed some concerns regarding the team's ability to adequately conduct the training. Individual trainers were requested to schedule a one-day meeting with a SWORCC representative prior to the first training session to assess final preparation for the training. This did not allow the entire team to conceptualize the week's training, but satisfied management's need to monitor final preparation for training. (The two-week span between this workshop and the first training session was to be used by individuals to make final preparation for the training in Philadelphia.)

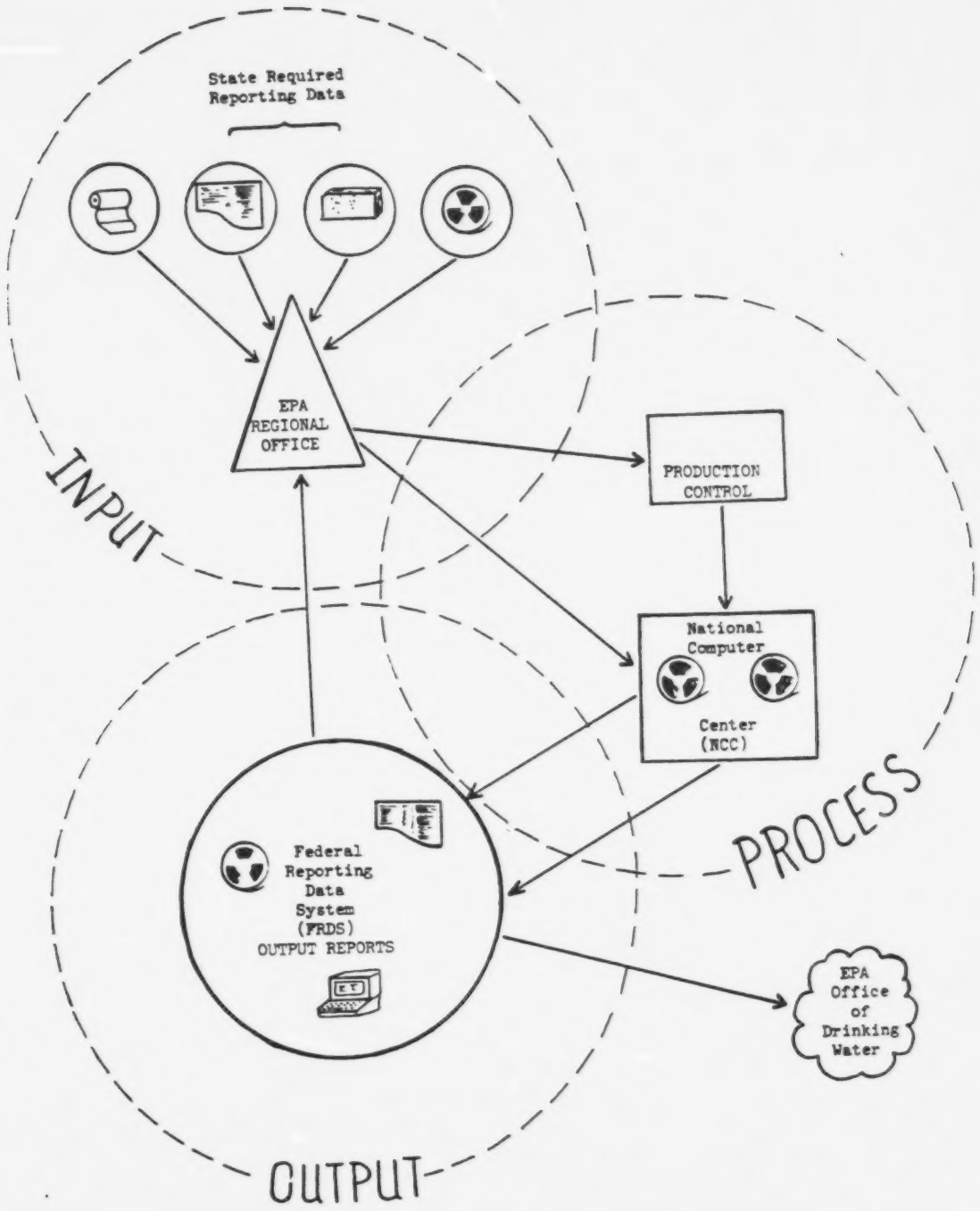



Figure 3 Training Theme

MONDAY

Introduction

MSIS Overview

FRDS Overview

Break

NCC Orientation

Transition

General Information Flow

Lunch

Intro. to Input

MSIS

Break

FEDR Subsystem Process

Non-MSIS

Summary of Day up to This Point

A. W. Marks

Summary of Day/What to Expect Tuesday

Finish

TUESDAY

Review of Monday

Input Forms

Break

Input Forms Workshop

MSIS Criteria

Lunch

Processing Options Study-Problems

FRDS Edit/Validate

Break

Continue FRDS Edit/Validate

Closure on Input/Intro. to Process

Summary of Day/What to Expect Wednesday

Figure 4 FRDS General Training Agenda

1 of 2

WEDNESDAY

Review of Tuesday

Unassisted Processing

Break

Unassisted Processing Procedures

Intro. to NCC Production Control

Lunch

Acquiring Production Control Services

Scheduling

Production Control Procedures For FRDS

Closure on Process

Break

Intro. to Output

Intro. to FRDS Data Base

Summary of Day/What to Expect Thursday

THURSDAY

Review of Wednesday

FRDS Data Base and S2K

Data Base Components

Break

Data Base Definition

Data Base Access Via S2K

Lunch

Sample Reports and Workshop

FRDS Standard Reports

Break

S2K Ad Hoc Reports

FRDS Data Base Administration

Closure on Output

Summary of Day/Expectations for Friday

FRIDAY

Review of Week

Question/Answer Session

Lab Session

Closure of Training

Figure 4 FRDS General Training Agenda 2 of 2

On Saturday, October 8, the team met with the SWORCC project manager and the evaluation consultant. The team objectives were reviewed, finalized, and compared to the client's objectives which had been solicited by SWORCC earlier in the week. Specific areas of concern were addressed and, when agreed upon by all, a final set of team objectives was submitted to the evaluation consultant for use in developing the participant evaluation instrument to be administered at the completion of each training session.

TRAINING SESSIONS:

A total of three FRDS training sessions were held during each of the weeks of November 13, November 27, and December 4, 1978. Each session was four and one-half days in length. The training day typically began at 8:30 a.m. and ended at 4:30 p.m. with break periods and lunch scheduled at appropriate intervals. Since trainers encouraged group discussion and interaction, some flexibility in the training times was required. Sessions occasionally continued beyond the scheduled end times. After-hour sessions were arranged at the request of the trainees to continue discussions of special interest.

FRDS training sessions were conducted at three centrally-located Regional offices: for the Eastern Regional offices (Philadelphia), for the Central offices (Chicago), and for the Western offices (San Francisco). Three or more EPA Regional offices were represented at each training session. With the exception of two Regional offices, both data processing and water program personnel were present from the ten Regional offices. Eight trainees attended the Philadelphia session, nine in Chicago, and six in San Francisco. Trainees from the hosting Regional offices occasionally missed portions of the training due to on-site responsibilities.

Both data processing and water program trainees had a general knowledge of the MSIS and FRDS system requirements. The water program personnel were very knowledgeable about the data requirements for both systems and the trainers often used this knowledge as a resource.

Philadelphia. On the evening before the Philadelphia training, the team met with two ODW representatives and the SWORCC project manager. The logistics of the following day were discussed, and an ODW representative reiterated his good feelings about the presentations given at the last team workshop. The SWORCC project manager was present for the entire week to monitor the training. It was reemphasized that this was the first time the team had presented the entire week's agenda, and this was the dry run as well as the first training session. The second ODW representative was present

as a trainee but also acted as a technical resource for the week's training session, since he was highly knowledgeable on the System 2000.

The training began with no substantial problem areas. The participants asked many questions, and interaction was high between the trainers, the trainees, and the ODW representative, who answered many questions requiring detailed technical knowledge of the system. Newsprint, overhead projections, documentation, and handouts were used by the trainers as teaching aids.

A backup presenter provided further technical expertise on Thursday and Friday during this and subsequent training sessions. The backup arrived on Wednesday in time to attend the team debriefing and to be introduced to team members. There had been no previous contact between this backup and the team members. The backup was updated on the agenda for the next day, the material covered during the previous training, and the participants. The backup's role during the training was briefly discussed with the team members at this time.

On Thursday, the training day began one-half hour earlier than scheduled because of modifications made to the agenda on the previous day; changes made largely as a result of input made by the ODW representative during the debriefing. Three on-line workshops were completed this week during which the trainers and trainees spent approximately four hours on the terminals. Nineteen questions were written on newsprint during the training session and answered prior to the completion of training. A formal evaluation instrument was administered to all participants at the end of training.

Chicago. The second Regional training session was conducted in Chicago from November 27 through December 1, 1978. ODW and SWORCC management representatives were present for Monday and Tuesday only, and the backup presenter was present at the training from Wednesday afternoon through Friday. The ODW technical representative was not present.

The participants used the system in three different on-line workshops during the Chicago training. Three hours were spent by the trainers and trainees on the system. Minor adjustments were made to the training agenda as a result of the daily debriefings. Four questions were written on newsprint for the trainers to answer prior to the end of the training session. At the request of the trainees, a general flowchart of the system and its interaction with other components was constructed. This flowchart was copied, distributed, and referenced throughout the training session (Figure 5).

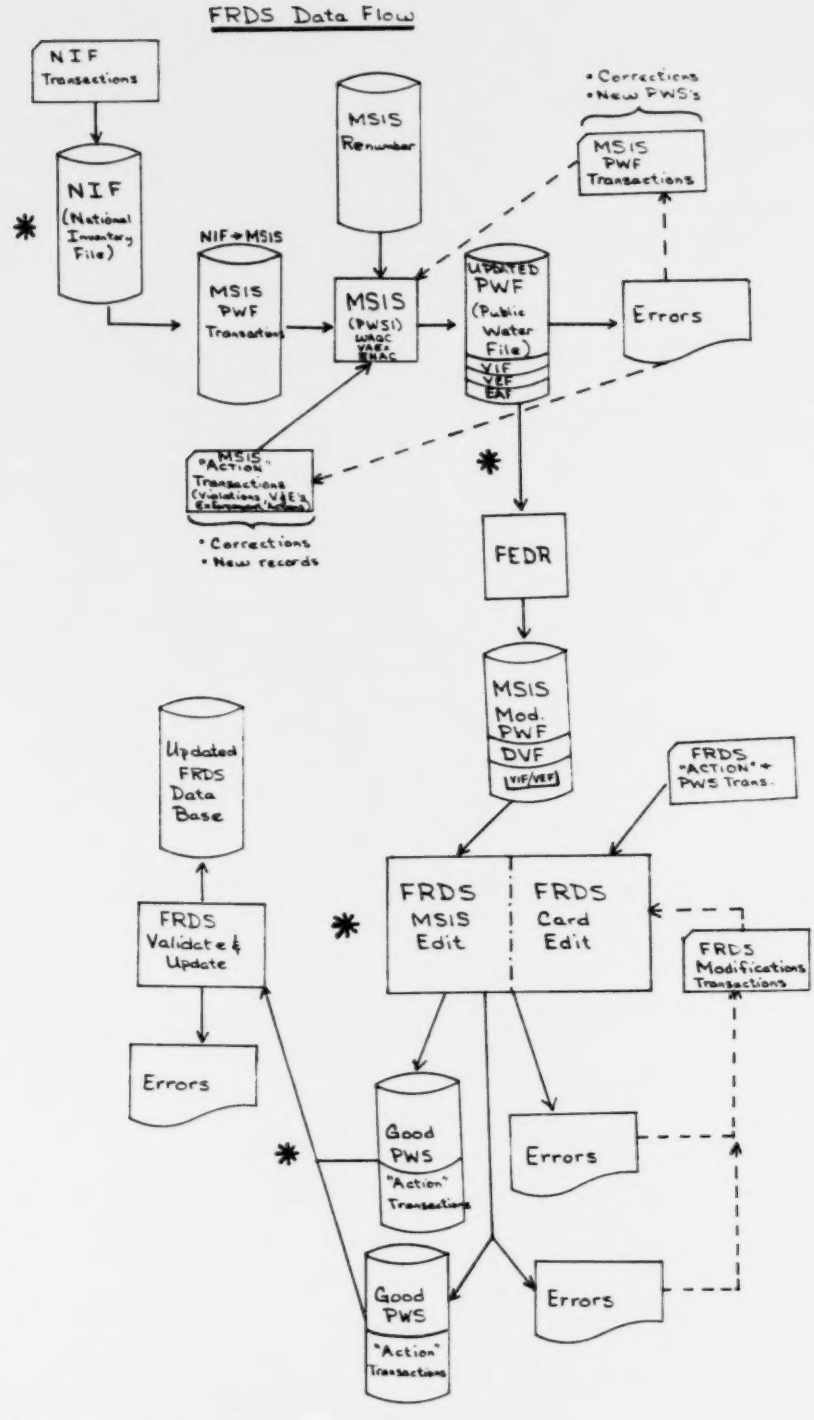

FRDS Data Flow
NIF Transactions
NIF (National Inventory File)
MSIS Renumber
NIF → MSIS
MSIS PWF Transactions
MSIS (PWSI) WAQC WAEA EMAC
UPDATED PWF (Public Water File)
VIF
VEF
EAF
Errors
• Corrections
• New PWS's
MSIS PWF Transactions
"ACTION" Transactions (Violations, VIE's, Enforcement Actions)
• Corrections
• New records
FEDR
MSIS Mod. PWF
DVF
VIF/VEF
Updated FRDS Data Base
FRDS "ACTION" + PWS Trans.
FRDS MSIS Edit
FRDS Card Edit
FRDS Modifications Transactions
FRDS Validate & Update
Errors
Good PWS "Action" Transactions
Errors
Good PWS "Action" Transactions
Errors
* = KEY DECISION POINTS
"ACTION" Transactions = Violations, Variance & Exemption, and Enforcement Action data.

Figure 5

San Francisco. The final training session was conducted from December 4 - 8, 1978, in San Francisco. An ODW management representative was present all day Monday and for some portions of Tuesday and Wednesday. The SWORCC project manager did not attend this final training session. One of the trainers had difficulties with travel arrangements and did not arrive until late Monday afternoon. The two remaining trainers made agenda adjustments and presented one of the absent trainer's segments which dealt with general content. At the Monday night debriefing the team reorganized Tuesday's agenda to facilitate a smooth incorporation of the segment not presented. The participants were informed of this adjustment.

Because agenda changes resulted from the late arrival of one of the trainers, only two on-line workshops were conducted: a one-hour workshop on Tuesday, and a three-hour workshop on Thursday. However, total time spent in use of the system was the same as in Philadelphia.

The approaching holiday season required the use of the training room on Friday for an office function scheduled by the hosting Regional office. Because the trainers and participants were unaware of this before the training day, valuable review time had to be used in relocating training to another site. The team captain closed the final training session after other team members had departed to make travel connections. Eleven questions were written on newsprint and answered during this session.

EVALUATION PHASE:

The FRDS training design specified that a continuous, systemic evaluation be conducted over the life of the project. SWORCC contracted an external program evaluation and training systems design consultant to conduct this evaluation.

The FRDS evaluation was systemic in examining the project from a general systems perspective. SWORCC was interested in monitoring the total project in terms of goals, processes, resources, management, and transactions with other systems. The evaluation was continuous so data were constantly being collected, analyzed, and fed back to the organizational system. The purpose of this cycle was to provide timely information to decision makers at all levels (from individual trainers to ODW managers) at critical points in the project's life. In addition it provided invaluable documentation for a post hoc analysis.

The evaluator played an active role throughout the project by helping individuals develop and clarify FRDS program objectives, providing team members with input on program evaluation purposes and procedures, assisting in

establishing the data collection, analysis, and feedback procedures, and by assisting in the preparation of the FRDS final report.

Data were collected by a variety of methods: team manager's log, notes of meetings, project documents, and questionnaires. Data were validated by comparing observations of the same event across several observers whenever possible. The questionnaires used to collect data from training team members and trainees were always keyed to specific program objectives to assure the data would satisfy information needs within the system. The trainers were asked to complete the Training of Trainers Questionnaire prior to the first Regional training session and again after the final training session. The results of these questionnaires were compared upon completion of the project to determine the impact of the trainer training on individuals and to assess the effectiveness of the training development process.

An important aspect of the evaluation process was to protect the confidentiality of data sources. Valid data about how social systems are functioning are very difficult to obtain unless the providers of the information have a high degree of assurance that the information they are providing is not likely to affect them in a negative way, either now or later. For example, the FRDS trainers were assured that data provided to the project evaluator would be confidential, and only summarized data which did not identify individuals would appear in project reports.

This approach to program evaluation, which encourages open, two-way communication, careful documentation of critical events, valid and reliable data, and the involvement of all project members in evaluation activities, is an important aspect of SWORCC's commitment to the continuous improvement of its products.

## IV. RESULTS

This section of the report identifies the effects of various FRDS program activities which occurred during both the team development and the training phases. Results are discussed below, followed by an evaluation of the program by the training team members.

### TEAM DEVELOPMENT PHASE:

The team development phase lasted from August 15 to November 13, 1978, the date of the first Regional training session in Philadelphia. It consisted of team workshops interspersed with periods of individual work on course preparation. The results of each workshop are examined in the following paragraphs. In addition, the results of a training of trainers questionnaire are presented.

Preliminary Workshop. A thirty-two item Questionnaire for Evaluation of Preliminary Workshop was administered to the trainers at the conclusion of the two-day workshop (Appendix D.3). As with all questionnaires constructed for this project, the items were keyed to the specific objectives for the workshop. Responses of the three presenting team members are included. The training team manager was involved in the design and application of all evaluation instruments and, therefore, did not complete a questionnaire for any team workshops.

Questionnaire results indicated that the workshop was successful in accomplishing its objectives. The response alternatives were "Strongly Agree", "Agree", "Disagree", and "Strongly Disagree". The trainers were unanimous in strongly agreeing that the workshop was run efficiently. Other areas receiving high ratings from the trainers were appropriateness of the topics covered (item 6), understanding of task responsibilities and operating constraints of the project (items 7, 9, and 12), presentation of adult education theory (items 22 to 26), and understanding the benefits of measurable training objectives (item 30). The lowest ratings given, and there was only one "Disagree" rating in each case, were for items 4 and 15. Item 4 was "I knew what was expected of me at all times throughout this workshop." Item 15 was "I now am sufficiently aware of the training ability of each team member." Overall, the Preliminary Workshop was an effective beginning for the FRDS training team.

Curriculum Development Workshop. The second workshop presented some difficulties from its beginning. The last minute introduction of a new trainer and backup from one of the contracting organizations (without prior consultation with SWORCC) required substantial changes in the week's objectives

and agenda. Additionally, and most likely as a result of team member changes, some team conflicts immediately ensued and continued to arise throughout the week around issues such as content-knowledge, authority, training philosophy, and workshop topics. For example, when the trainers and backups were asked to reach consensus for the prioritization of the training objectives, some individuals questioned the necessity to perform this task. Because participation was minimal, the task was not accomplished. Some of the conflicts that arose were not fully resolved at the time and surfaced at various times throughout the remainder of the project.

The presence of backup presenters at this workshop also added to the overall sense of confusion. The backup presenter role was never clearly defined and, as a result, the backup team members were not sure, given the other events occurring, how they were expected to participate in team activities.

SWORCC management was aware that replacing a principal trainer who had played an important role in the design of the FRDS system with one who had little knowledge of the system would cause serious problems in the training team, especially since the original team members had developed a close working relationship. SWORCC requested that the Curriculum Development workshop be postponed until the issue of who would comprise the training team could be resolved and, if necessary, a new program design could be developed to incorporate into the team a new principal trainer who had little content-knowledge. SWORCC's favored option was to reinstate the original team member. ODW insisted that, because of time constraints, the workshop proceed as scheduled with the new trainer.

The training team became caught-up in this problem which should have been resolved at the management level. It attempted to go forward with the planned agenda, but continually bogged down in conflicts. The outside curriculum development consultant often found herself trying to perform group processing instead of doing her planned work. By the middle of the week, it became apparent to the team that a curriculum could not be developed as planned, because one of the principal trainers had limited content-knowledge. The consultant was requested to leave and the backup presenters were sent home. During the remainder of the week the group did develop a list of training objectives. These were of a general nature however, and extensive revisions were needed at a later date. The group also made some progress at integrating the new person into the training team. The program timetable suffered a setback during this period; time lost during this week was never fully recovered. One result was that there was never a complete dry run prior to the first training session in Philadelphia.

Team Building/Curriculum Development Workshop. This workshop was considerably more productive than the previous one. Individual concerns appeared to have abated in the intervening week, and the management meeting in Washington on September 26 resolved several important issues. The team building activities conducted during the workshop afforded the trainers a chance to establish the necessary support with the new trainer, and the team worked productively to develop a detailed agenda. This activity met everyone's need to produce something concrete. The interspersement of team building activities with the detailed and mentally taxing curriculum development tasks provided a welcome contrast of activities.

At the conclusion of the week, the training team manager reviewed the workshop objectives and asked for individual team member comments on each objective. The comments, summarized in Appendix D.4, indicated that the team members thought they had achieved all but one of their objectives satisfactorily. Trainers left at the end of the week with a sense of accomplishment and something concrete to work on before the next workshop two weeks later. At the end of the workshop, they believed that they still needed to do some work on revising the training objectives.

Practice Sessions Workshop. A great deal was accomplished during this workshop, although technical difficulties with the video tape equipment created some problems. Also, the trainers were not able to practice the on-line workshops as planned because of system non-availability. The trainers practiced some problem sessions, settled a number of logistical details, compared their objectives with those of ODW, practiced debriefing procedures, finalized the training agenda, and did a limited, one-day dry run. Recall that the intent in the original design was to practice problem segments at the previous workshop and then spend an entire week on the dry run. What happened was that only a few problem sessions were worked on prior to the training. These problem segments were worked on during the practice session, presented during the limited dry run, and polished the following day. As a result, these problem segments were among the best sessions presented during the actual training.

The training team did not have a solid feel of what the entire week-long training session would be like. The team was able to work collaboratively on some segments which required more than one trainer. This was helpful in adding continuity to the training, but the end result was that no one (SWORCC management, ODW management, or the team itself) was able to view the complete training program and judge its depth and content until the first training session in Philadelphia. This was particularly true in the area of workshops and "hands-on" training using the FRDS system and reports.

A 42-item Trainer Evaluation of Practice Session Workshop Questionnaire was administered at the end of the week. The results showed general satisfaction with the workshop. (The questionnaire results are shown in Appendix D.5.) The practice presentation session using video tape equipment received high ratings from the trainers, although technical difficulties prevented one of the trainers from completing a taped presentation. The trainers were very satisfied with the training objectives they had developed and provided as input for the training evaluation. Also, they thought that the individual problems they shared with each other were treated as being important to the team.

One of the trainers missed the sharing of expectations portion on Monday and said on the evaluation that the workshop did not meet his expectations. This lends validity to including a sharing of expectations segment at the beginning of a training period. There was a slight feeling that the workshop was not run as efficiently as it could have been, and one trainer was not always sure what was expected of him during the week. These were the only exceptions to an otherwise positive evaluation.

While the training team was working well at this point, they were not yet to the point of being able to deliver the quality training expected by SWORCC management. There was concern over the continuing need for the new trainer to increase his content-knowledge, and all of the trainers showed numerous rough edges as a result of limited opportunity to practice their segments and coordinate their transitions. Following this workshop the trainers had two weeks to finalize preparations for their segments, and a representative of SWORCC management met individually with each of the three trainers prior to the first training session in Philadelphia to assess their progress. The outcome of these meetings was a decision to treat Philadelphia as a dry run and have a technical representative from ODW available at the training for the entire week to assist the trainers.

TRAINING PHASE:

The three Regional training sessions were conducted in Philadelphia, Chicago and San Francisco. The Philadelphia session was treated as a dry run, and representatives from SWORCC management and ODW observed the training and attended the daily training debriefings.

At the September 26 meeting, a decision was made to have the new team member's backup present during the Wednesday, Thursday and Friday training sessions to serve as an additional technical resource. This backup person did not participate in the training team development activities but,

as the training progressed, became an additional, unofficial member of the training team. Early in the week in Philadelphia, ODW expressed concern about the way some of the material was being presented, but by the end of the week, ODW expressed full satisfaction that the material being presented, and the way it was being presented, were satisfactory, and that the efforts of the three contractors were well integrated. ("A play in three acts instead of three, one-act plays.") No plans were made for ODW to have a technical representative at the Chicago or San Francisco training sessions.

On Wednesday, in Philadelphia, an authority dispute arose between the team manager and members of the training team. Unresolved issues from the team development phase had surfaced again. Fortunately, the daily team debriefing process had been established to deal with such conflicts before they were likely to affect the training. This conflict was successfully negotiated by the team, and the solution became an integral part of the team's later planning activities.

By the end of the first training day in Chicago, the next training session, it was evident to both ODW and the SWORCC project director that the training was going well. The ODW representative clarified SWORCC's decision-making authority at the Monday team debriefing. The SWORCC project director was satisfied with the training and returned to Cincinnati. After discussion with ODW, plans for the project director to attend the training in San Francisco were also cancelled since the ODW representative would be there to help things get started.

The Questionnaire for Participant Evaluation of the FRDS Training was administered at the end of each of the three Regional training sessions. The questionnaire items were constructed to have a direct relationship to the FRDS training objectives (Appendix A). Responses to the questionnaire are summarized in Appendix D.6. Although the questionnaire was administered to 20 individuals, they did not respond to every item. Sometimes an item was left blank or the "No Opinion" response was checked.

Of the 18 trainees who responded, 16 said that their expectations for the FRDS training were met. A similar proportion (18 of 19) said that the training addressed their major job-related needs for information about MSIS, FRDS and NCC Production Control. Responses to a number of other items also indicated that the training was highly successful in transferring needed job-related content to the trainees. For example, 17 of 18 said they now had the functional knowledge of FRDS and MSIS to do their jobs; 18 of 19 said they now had the functional knowledge of NCC Production Control to do their jobs. All 20 people responding said that, as a result of the

training, they were better prepared to apply FRDS, MSIS and NCC Production Control to their job-related problems, and were better prepared to meet ODW requirements. Responses to items 32, 35, 36, 37 and 41 indicated similarly high percentages of people agreeing that they were provided with information and tools that would help them later in their jobs once the training was over.

The training also received high ratings from the trainees for the training processes used. The most highly rated item on the questionnaire was number 20, "The trainers assisted individual participants in special sessions when their help was requested." More than 60 percent of the participants responded "Strongly Agree" to this item. Other areas receiving high ratings had to do with trainer awareness of participants' backgrounds (6, 7), respect for participants' knowledge (9), two-way communication between trainers and participants (12, 13, 14), use of training aids (15, 16), trainer teamwork (19, 20), and transitions between training segments (42).

Three of the questionnaire items related to intentions of the participants following training. More than 80 percent of the participants said they intended to use the FRDS test data base to continue learning about FRDS (items 33 and 39) - a clear indication that participants understood the value of the test data base as a learning tool, knew how to use it, and intended to use it in the future as a continuation of training. On the third item dealing with intentions, more than 40 percent of the participants said they intended to try to attend one or more of the courses offered at NCC (item 34). Whether this result should be viewed as favorable or unfavorable is difficult to say; however, the result clearly indicates a knowledge of NCC courses offered, their applicability to FRDS, and the participants' lack of knowledge in specific areas.

The questionnaire also contained an item asking how well the participants' superiors did of preparing them for the FRDS training (item 2). Nearly 90 percent of the participants who had an opinion responded in the negative. In addition, 50 percent of the participants responding had no opinion. The written comments of some of the participants suggest that many of the "No Opinion" responses were given because the participants had received no preparation from their superiors or that this question was not applicable to their specific situation. It is evident that a serious communication problem existed in the FRDS program regarding participant preparation for attendance.

On only two items did more than 12 percent of the participants respond in the negative. On item 8, "The

trainers used a problem-oriented approach throughout the training", there was 31.6 percent disagreement. This result was consistent across Regions, indicating that this training objective was not achieved satisfactorily. On item 38, "As a result of the training I am significantly more aware of the cost impact involved with ad hoc report generations using the FRDS data base and System 2000", there was 42.1 percent disagreement. Responses to this item were also consistent across Regions; it must be concluded that this training objective was not accomplished at a satisfactory level.

In summary, data from ODW, SWORCC management, and the trainees indicated that the FRDS training objectives were successfully achieved, with the two exceptions noted. The training was a credit to ODW and to the contracting organizations involved.

TRAINERS' EVALUATIONS:

The Training of Trainers Evaluation Questionnaire was administered to each trainer prior to the first Regional training session and, again, at the conclusion of the training project. The questionnaire was designed to provide information on how the trainers, who were involved in the project at the technical level and actively participated in designing the training, felt about the role of the coordinating agency. Questionnaire responses were analyzed to determine possible areas in the program design and implementation which needed improvement from the point of view of those directly affected by the design. The results of both administrations of the questionnaire are summarized in Appendices D.8 and D.9.

The three FRDS trainers, referred to as trainers A, B, and C, responded to this questionnaire. Their responses on both the numerical rating scales and the open-ended questions were analyzed by the evaluation consultant in keeping with the confidential nature of these data. The results are reported jointly for all three trainers. Results for numerical rating scales were computed on a ten-point scale where a rating of one represented the lowest end of the scale, or a highly negative response, and a rating of ten represented the highest end of the scale, or a strongly positive response.

Responses to Numerical Items. The opinions of the FRDS trainers were very stable between the pretraining and posttraining questionnaires. The average change for all three trainers was one or fewer points for 30 of the 34 items with numerical rating scales. There were major changes on items 11, 12, and 16. The FRDS trainers perceived a significant drop in the openness of communications and the degree of cooperativeness in the FRDS training team (items 11 and 12).

They also perceived a significant increase in the usefulness of the team captain role (item 16). Trainer A's rating on item 19c, contribution of SWORCC management to open communications among team members, dropped four points. This was the only case of a significant change experienced by a single FRDS trainer.

While their opinions were stable, there was relatively little agreement among the three trainers. Agreement among trainers was defined as less than a four-point separation between the lowest rating and the highest rating on a questionnaire item. Using this definition, there was a lack of agreement among the three FRDS trainers on 22 of the 34 numerical items on the pretraining questionnaire, and 24 items on the posttraining questionnaire. On closer analysis, it was seen that the differences of opinion were primarily a factor of the low ratings given by trainer C on most of these items. On the items where there was lack of agreement, trainers A and B were separated by two or less points on 15 of the 22 on the pretraining questionnaire and 16 of the 24 on the posttraining questionnaire. Of the remaining items on which there was disagreement, the three trainers were in total disagreement with one another on 6 items of the pretraining questionnaire and 6 items of the posttraining questionnaire. The trainers disagreed totally on items 13g, 13i, 19d, and 19e on both the pretraining and posttraining questionnaires. Items 13g and 13i dealt with the importance of shared values and trust to their mutual commitment. Items 19d and 19e dealt with the performance of the SWORCC management in setting clear task expectations and specific objectives.

The three trainers were in agreement on the pretraining and posttraining questionnaires in several areas. All three agreed that task accomplishment, common goals, common problems, and organizational orders (items 13a, 13c, 13d, and 13h) were important in determining their commitment to the FRDS training team. All three also said that they were highly committed to the FRDS project (item 14). There was close agreement that the curriculum design consultant was useful, and items 1, 2 and 4 dealing with the support the trainers received from their home organizations received high ratings.

Written Comments: The written comments of the trainers (Appendix D.9) amplified the responses to the numerical scales. There were some major problems identified in the FRDS team training process by the trainers (item 24). One problem identified was the occurrence of the team reorganization after the team training was in progress. Responses indicated that the trainers did not agree with the manner in which SWORCC handled the team reorganization. The trainers believed that SWORCC over-reacted to the change, and they did not like the initial decision to cancel the workshop. The two "old"

trainers felt that they accepted the new member and adapted to the situation better than SWORCC management did.

The trainers expressed dissatisfaction with SWORCC's decision-making procedures concerning the coordination of the FRDS training project, as well as lack of clarity around SWORCC's specific project goals and objectives. There was also some difficulty arising as a result of not clearly defining the role of the trainers and their respective backups. This was suggested as a possible improvement for future projects. One trainer believed that the team process was not clearly defined at the onset of the training.

The trainers expressed satisfaction with SWORCC's eventual decision to continue with the training after the introduction of the new trainer. Other decisions that the team liked included letting the team have a say in all team matters, using team teaching methods, having ODW commit its objectives in writing, and treating Philadelphia as a dry run with ODW resources available. All of these decisions were seen by team members as being beneficial to the project goals.

Communication was seen as being a problem over the life of the project. Specifically, coordinating different organizations located at a great distance from one another, each having different organizational goals and philosophies, was perceived as being a deterrent to maintaining effective communication. The trainers felt that the use of the mid-management team, which was created at a late date in the project to help alleviate the communication problems, was not effective.

The trainers perceived the lack of sufficient time, resulting in trainer overtime, compression of training tasks, and failure to achieve a full dry run, as a problem. The trainers also believed that, of the time available, too little was devoted to course preparation and practice sessions.

The trainers were generally supportive of the team concept for FRDS. Two of the three trainers responded positively to item 25, "What is your current opinion about the decision to conduct the FRDS training using representatives from three different organizations?". The third trainer had reservations about the difficulties in coordinating actions over the distances involved, setting common goals when the different organizations had different values and concerns, and the problem of assuring that team members would be compatible before it was too late to change team membership. Two of the FRDS trainers also responded positively to item 27, "Do you favor the team training concept over the individual trainer concept for programs like FRDS?" The third member did not respond. In summary, the FRDS trainers believed that the

training approach used with FRDS is feasible for future training programs, but that a number of problems must be overcome.

## V. DISCUSSION

In spite of some difficulties in the development stage, the available data indicate that the FRDS training was highly successful. The major problem in the FRDS project was the mid-stream change of presenters made by one of the organizations. The key premise of the overall design of the training was that a thoroughly content-knowledgeable, primary trainer would be provided by each organization at the outset. Thus, the training development phase allowed no time for training of trainers in FRDS content. Rather, the trainers were supposed to apply their existing content-knowledge in the development of a training curriculum; a process that SWORCC was to facilitate with its expertise in the curriculum design area. SWORCC intended to apply its knowledge of group processes during this phase to develop a team of trainers who could communicate openly, integrate work effectively and create a positive learning climate. As trainer evaluations indicate (Appendix D.7, D.8, and D.9), considerable stress within the training team and between individual trainers and SWORCC management resulted when a primary trainer with very limited content knowledge was substituted for a trainer who was extremely knowledgeable and, not incidentally, had developed excellent working relationships with the other two trainers.

This situation was further compounded by the fact that SWORCC's role did not include "testing" of individual trainers to determine competency. Therefore, when the organization changed its trainer and indicated the second trainer was content-knowledgeable, and ODW accepted this change and directed SWORCC to continue with the design implementation, some difficult and long-term issues were injected into the management of the project.

As a result of this problem, and contrary to SWORCC's intentions, the training team did not develop bonding in both task and social areas. According to the trainers, there was a marked drop in the openness of communications and the degree of cooperation in the training team over the course of the three Regional training sessions. Individual team members indicated that task factors such as common goals and organizational orders were important in determining their commitment to the training team, but there was wide variance in how important social factors like shared values, mutual trust, and liking of each other were to team members. It is clear that uncertainty among team members about whether the content of the training could be developed in time caused task factors to assume primary importance. SWORCC's efforts to force the team to spend time on interpersonal issues related to effective team functioning and trainer-trainee relations were often reacted to in a negative manner (e.g., complaints about spending too much time on "psychological" issues and not

enough time on course preparation and practice sessions during the training development phase). When the team accomplished its task objectives by completing the training, there was little left to bond the members to the team. It is not surprising that team communication and cooperation were perceived to drop as task completion was approached, since task completion was the primary force bonding the team.

In a short-term project like FRDS, where goal attainment is unambiguous and rather immediate, high task bonding with moderate social bonding is probably sufficient to assure effective team functioning. When task outcomes are more ambiguous and distant, as in a long-term project like the Model State Information System, task factors alone are not sufficient to bond individuals to a team. Problems with communication and cooperation between team members could be expected to cause more negative impact in a long-term project than in one such as FRDS training.

## VI. CONCLUSIONS

Two primary questions were to be addressed by FRDS evaluation: (1) the success of the FRDS project for trainees, and (2) if training projects similar to FRDS are feasible. In answering these questions, it is important to keep the major characteristics of the FRDS project in mind.

1. A project manager brought together content-knowledgeable trainers from three contractors, none of whom understood the entire system, and developed and presented a fully integrated training program in a very short time.

2. There were only three presentations of the training program, which did not allow for a great deal of on-going improvement. The trainers had to be operating at peak efficiency from the first day of training without benefit of a complete dry run.

3. The training was geared to the learning needs of the trainees who needed the content immediately in order to perform their jobs.

4. The training had a hands-on, practical, applied emphasis.

5. The training team was fully mobile and required logistical support so it could provide training in three widely distant locations in a short time span.

The available evidence indicates that projects like FRDS are effective. The training team was able to function within the constraints listed and deliver a high quality product, although training team members and SWORCC management representatives experienced considerable stress in the process. The stress was largely a function of management and team member reactions to the uncoordinated mid-stream insertion of a training team member with limited content-knowledge replacing a well-liked team member with considerable content-knowledge.

In retrospect, it appears SWORCC's management plan for FRDS had several flaws. Looking at the four system functions of: a) inputs, b) process, c) outputs, d) controls, it seems obvious that SWORCC has the process area completely solved. SWORCC knows how to design good training programs and train training teams. In terms of outputs, the SWORCC management had a clearly conceived process to attain program goals but did not consistenly place program goals ahead of process. The result was often overly process-oriented instead of goal-oriented program management. When the inputs (new training team members) were altered dramatically, SWORCC management did

not alter its processes sufficiently, based on a set of clearly understood program goals as the controlling factor. Thus, SWORCC management appeared rigid and inflexible to ODW and to training team members because it talked about impact on processes instead of impact on goals.

The major shortfall of the FRDS management plan was with inputs: both specifications of and control over them. At the outset of the FRDS project, there was no mutually agreed upon set of criteria for the selection of training team members; nor did the project manager have the clear authority to make final judgment on the acceptability of training team members. The project manager had the responsibility for the quality of the product, but not the necessary authority to control the quality of the inputs. This was a major problem in management design and created the bulk of the problems with the FRDS project.

These critical remarks should not obscure the fact that the FRDS training was highly successful from the standpoint of the quality of the product. This success was based on the following factors.

- The trainers were competent and committed and received excellent support from their home organizations.
- ODW shared its training objectives with the team and provided useful technical assistance, particularly during the first week of training in Philadelphia.
- The needs of the trainees were assessed, and this information was incorporated into curriculum design.
- The training team was able to create a learning climate in which the trainees felt at ease, respected, accepted, and supported.
- The training content and teaching methods were designed to motivate trainees by being job-oriented with a great deal of "hands-on" practice to facilitate transfer of learning.
- Trainers developed a feeling of ownership of the training program and a desire to give their best efforts to the training as a result of activities carried out during the team development phase.
- SWORCC was committed to the continuous improvement concept through daily debriefings, the use of professional, trained observers and program

evaluations, and the creation of a supportive learning climate for trainers and trainees alike.

- The trainees were motivated to learn so they could effectively perform on the job.

The following conclusions appear justified by the data:

1. Projects like FRDS are effective.

2. The majority of the training goals were achieved to a high degree.

3. The trainees' superiors did not do an adequate job of preparing them for the training.

4. SWORCC's state-of-the-art approaches to training system design and training of trainers are effective.

5. There were some flaws in the management plan as noted.

## VII. RECOMMENDATIONS

The purpose of spending a portion of a project's resources on evaluation is to learn what works and what doesn't work and to document these facts so future program managers do not have to "reinvent the wheel". The following recommendations are based on what was learned in the FRDS project.

1. Objective program goals should be established at the outset of a project and communicated to all levels of the project team. Goal clarity places an upper limit on goal attainment. Training goals should be based on a careful assessment of the training environment.

2. Input characteristics should be specified at the outset. In particular, social and technical criteria need to be established for trainer selection.

3. Processes should be consistent with and adaptable to changing program goals and inputs. Project management should be "why" oriented instead of "how" oriented. Any specification of what is to be done (the "how") should be tied to program goals and program inputs (the "why"). Processes should also represent the state-of-the-art in behavioral sciences technology.

4. Project managers should have a great deal of control over inputs, processes, and outputs. This control requires effective communications and the flattest organization structure possible consistent with the size and complexity of the project. It also requires clear specifications of authority over these areas at the outset of a project.

5. Evaluation should be budgeted as part of all training projects.

6. It should be assumed that normal communication channels will <u>not</u> be effective in communicating with trainees prior to a training event. <u>The only</u> way to guarantee that trainees will be properly prepared to come to the training is to communicate with them directly via telephone or letter. This can have a very motivating effect on the trainees and can establish a good rapport between trainers and trainees before the training begins. Direct prior communication with trainees is one more way the trainers can gain control of the training situation and structure it to assure the maximum transfer of training.

7. Training approaches like FRDS should be used for similar situations in the future, but with the improvements in management design that have been suggested.

# APPENDIX A

## TRAINING OBJECTIVES FOR THE FRDS TRAINING SESSIONS

A.1. Training Team Objectives for FRDS Training Sessions

A.2. ODW's Objectives for FRDS Training Team

Training Team Objectives
For FRDS Training Sessions

1. Content of the training sessions followed a logical, predetermined norm of going from general to specific for each segment dealing with MSIS-related information.

2. Content of the training sessions followed a logical, predetermined norm of going from general to specific for each segment dealing with FRDS-related information.

3. Generally, content of the entire week has progressed from a general overview level on Monday to a specific, applicable, detailed level on Friday.

4. Trainers have accounted for the variability of knowledge concerning MSIS-related information and experience, FRDS-related information and experience, and NCC Production Control-related information and experience by utilizing both general and more specific terminology throughout the training.

5. Trainers acknowledged these differences of knowledge throughout training.

6. Trainers have sustained the interest of participants despite the variability in knowledge levels.

7. Trainers have acknowledged to the participants that there is an awareness of differences of job-related responsibilities (Water personnel and data processing personnel).

8. Trainers have identified participants who have data-processing skills/jobs and those who have water-type skills/jobs during training.

9. Trainers have used the knowledge of participants as a resource during training.

10. Trainers have utilized a problem-oriented approach throughout the training.

11. Trainers have verbally solicited questions during training.

12. Trainers have utilized/practiced teaching methods which encourage questions during presentation of material.

13. Trainers have solicited problems which are unique/typical to regional personnel concerning the utilization of FRDS.

14. Trainers have solicited problems which are unique/typical to regional personnel concerning the utilization of MSIS.

15. Trainers have solicited problems which are unique/typical to regional personnel concerning the utilization of NCC Production Control.

16. Trainers have solicited problems which are unique/typical to regional personnel to which FRDS can be applied.

17. Trainers have utilized problems/questions identified by participants as examples for solution during the training sessions.

18. Trainers have given participants the opportunity to formulate their own job-related problems.

19. Participants have been provided an opportunity/encouraged to express their job-related needs as they relate to FRDS, MSIS, and/or NCC Production Control.

20. Trainers have created an atmosphere which encouraged the participants' involvement.

21. Trainers have utilized teaching styles which encourage participant involvement during training.

22. The atmosphere which was created during training was conducive to two-way communication.

23. The teaching methods/presentation styles utilized during training were conducive to two-way communication.

24. The training aids (newsprint, overhead slides, handouts) enhanced the presentations during training.

25. The training aids utilized during training proved beneficial in emphasizing important points and concepts.

26. Trainers supported each other during training.

27. Trainers conducted themselves in a professional manner during training.

28. Trainers showed respect for each other/the participants throughout the training.

29. Trainers provided a source of technical knowledge for each other in their respective content knowledgeable areas.

30. Trainers expressed a willingness to assist individual participants in special sessions if requested for their specific area of expertise.

31. Trainers stated the content presented during training as being designed to provide the degree of knowledge needed to functionally utilize FRDS & MSIS.

32. Trainers stated the content presented during training as being designed to provide the degree of knowledge needed about NCC Production Control to be aware of the benefits of the service offered.

33. Trainers have supplied enough content, reference material, and practical hands-on application to facilitate the application of FRDS, MSIS, and NCC Production Control to job-related problems.

34. As a result of training, participants know the options and procedures involved with submitting State data to ODW as required.

35. Trainers supplied participants with a cognitive knowledge of the features available to them concerning FRDS, MSIS, and NCC Production Control.

36. Trainers encouraged participants to continue the review learning process involved with successful application of MSIS, FRDS, and NCC Production Control after training is completed.

37. By the end of training, participants will have an understanding of the economic aspects involved with ad hoc report generation utilizing the FRDS data base and System 2000.

38. By the end of training, participants will be aware of the costs associated with utilization of NCC Production Control services.

39. Participants have had a hands-on application of the FRDS User's Manual utilization to answer job-related questions/ problems.

40. Trainers provided information necessart to assure that participants know whom to contact when problems arise or questions arise concerning FRDS, MSIS, and NCC Production Control.

41. Trainers provided a feeling of continuity throughout training by presenting smooth, orderly transitions between individual trainer's segments.

42. Participants will be aware of the cost/savings benefits of using the FRDS test-data base to practice obtaining tailored reports.

43. Participants feel that they can utilize the FRDS User's Manual to answer job-related questions/problems.

44. Trainers made participants aware that data on the needs assessment forms filled out prior to training were used to design the training program.

ODW's Objectives
For FRDS Training Team

Overall Objectives

1. That the training sessions be productive.

2. That the training sessions be meaningful to participants.

3. That trainees know how to work "smarter" not "harder".

Specific Objectives (for Trainees)

1. That the trainees know how to use the system.

2. That the trainees know how the system relates to their jobs.

3. That the trainees know how to use the documentation when they have a question.

4. That the trainees know whom to call when they have a question.

Specific Objectives (for Trainers)

1. Variability of knowledge:

   - That the training program deal with the variability among Water personnel trainees in terms of knowledge of MSIS.

   - That the training program deal with the variability among data processing personnel trainees in terms of knowledge of data-based management systems and knowledge and experience in using NCC.

   - That the trainers deal with this variability in the following ways:

     A. Let them know that you recognize the situation.
     B. Try to involve trainees at a moderate level of interaction, without any particular bias toward those who have a lot of knowledge or those who have only a little knowledge.
     C. Use trainees to accomplish this objective (e.g. turning to one who's knowledgeable and asking, "What do you think about this?").

2. Training data base:

   - That the regions are left with a training data base that they can use to try out the system.

- That regions are encouraged through training to use the training data base left with them for the following purposes:

    A. To sharpen their knowledge.
    B. To utilize as a way to try out sample data before funning data against the larger data base.

3. Training style:

    - That trainers encourage involvement (and thus, greater learning) on the part of trainees by getting down to a personal level as follows:

        A. In terms of interpersonal style with trainees.
        B. In terms of activities utilized (e.g., hands-on workshops).

4. Job-related training of water personnel trainees:

    - That trainers understand the objectives of regional water personnel trainees.

    - That trainers convey this understanding to trainees for the following areas of responsibility:

        A. Water personnel have overall program responsibility for the states who have primary enforcement responsibility. (Entails review of the way states manage their program; how the states enforce quality compliance; how state grants are used; how sanitary surveys are performed; etc.)
        B. In the case of regions acting as surrogate states (who have stated clear legislative intent), the water personnel have a double responsibility in that they must also act in place of the state to enforce regulations (and must use MSIS).
        C. For regional water personnel, this is (with the possible addition of MSIS) <u>the</u> system they are dealing with.

    - That in view of the above job orientation, the water personnel trainees understand the data, how to relate it to their jobs, and, consequently, be able to formulate ways to deal with informational needs.

    - That water personnel participants be able to answer such questions as, "When do I want to use one type of report as opposed to another?" or "When I put data in FRDS and get a number of reports out, I then can...?"

- That trainers include this perspective in the training for trainees to practice:

    A. Possibly set up hypothetical problems in the workshops.
    B. Possibly have trainees set up problems and have each other answer.

5. Job-related training of data processing personnel trainees:

    - That trainers understand the objectives of regional data processing personnel trainees.

    - That trainers convey this understanding to trainees for the following areas of responsibility:

        A. Data processing personnel provide support to all programs in the region, both at an operational level (as in FRDS) and at a development and maintenance level for regional data systems.
        B. Data processing personnel don't deal with data as "information" but as a "thing".
        C. Data processing personnel put information put information into the system, get reports back, verify, and pass the reports on to the water personnel program people.
        D. For data processing people, this is a system, (one of many) not the system.

    - That in view of the above job orientation, the data processing personnel trainees obtain the "mechanics" of FRDS. (e.g., "How do I put data in?", "What do I get back?", or "If I don't get what I want, whom do I call?")

    - That participants have a chance to focus on the documentation by using it in class.

6. Water and data processing personnel:

    - That trainers respond to the overlap between data processing and water personnel needs at a personal, not a system, level. (i.e., by trying to build rapport between the people in the workshop, but not taking the responsibility for interaction of the branches the trainees work for) Specifically, the members of each group should:

        A. Recognize the other group's emphasis in the FRDS program.
        B. Know what the other group's job actually is.

7. Training team:

- That this training be a "play in three acts", not "three one-act plays". This includes the following:

    A. That there be an orderly transition between speakers.
    B. That the individual trainers are each knowledgeable about the documentation.
    C. That the individual trainers come off as having sufficient content knowledge.
    D. That the trainees leave with accurate information.
    E. That the team work out a way for Linda to back up Pat without drawing the focus of questions to Linda.

# APPENDIX B

## FRDS TRAINING PROJECT RESPONSIBILITIES

### B.1. Team Member-Defined Role Descriptions

TEAM MEMBER-DEFINED ROLE DESCRIPTIONS

Team Manager:

Continuous responsibilities:

1. Support team members
2. Solicit feedback/support
3. Monitor project progress
4. Collect data for reports
   - Progress reports
   - Final project report
5. Coordinate schedules
6. Develop evaluation instruments
7. Initiate/Identify decisions which must be made
8. Represent my organization in a positive, professional manner
9. Report as necessary to my organization
   - Discussion of and reporting of problems and solutions
   - Formally establish reporting techniques

Responsibilities during training development:

1. Plan group sessions
   - Place
   - Equiptment
   - Resources
   - Materials
   - Agenda (with input from team and organization)
2. Initiate identification of tasks
3. Overall responsibility for development of training program
4. Represent contracted training philosophy and communicate to trainers
5. Written correspondence
   - Summary team report
   - Memos
   - Notes
   - Materials for trainers
6. Telephone correspondence
   - With ODW/NCC/CSC
7. Share information with trainers

Responsibilities during training sessions:

1. Initiate debriefings
2. Observe training
   - Write notes
3. Provide feedback
4. Support/Motivate team members as needed
   - Help with questions, snipers, etc.
5. Be available to trainers
6. Help in ways indicated by trainers
7. Inform ODW if team collectively identifies the need

Team Captain:

1. Know the water-related content (MSIS and "CARD" input) for/of FRDS
2. Present one and one-half to two days of above content
3. Have knowledge of FRDS data base system, System 2000, and NCC Production Control procedures
4. Provide support to team members
   - Help with questions, snipers, etc.
   - Help with handouts, etc.
   - "Be there"
5. Prepare my own handouts, training aids, etc.
6. Coordinate training floor (daily)
   - Who begins
   - Who ends
   - Transitions
7. Provide input to group/team decisions
8. Express my own needs
9. Listen to/Respond to needs of other team members
10. Stick to agenda times
    - Control process when presenting
11. Listen to needs of participants
12. Responsible to self to present material and interact with regions professionally
13. Keep my organization informed of progress and problems during training
    - Maintain individual reporting/coordinating responsibility to my corporation by discussing and reporting problems and solutions and by formally establishing reporting techniques.
14. Request specific support from other team members

Team Member:

1. To be supportive to group/team members
   - Help with questions, snipers, etc.
   - Help with handouts, etc.
   - "Be there"
2. To present the materials and information I am responsible for in a professional manner
3. To evaluate my progress and the progress of the group during training
4. To report individual as well as team progress to my organization
   - Discussion of and reporting of problems and solutions
   - Formally establishing reporting techniques
5. To request team member specific support

Team Member:

Overall responsibility:

To professionally provide a source of technical knowledge for each other and for users.

Responsible for presentation skills necessary to:

1. Answer the job-related needs of users
2. Provide users with knowledge and stimulate further learning efforts
3. Support the related group/team efforts
   - Help with questions, snipers, etc.
   - Help with handouts, etc.
   - "Be there"
   - Listen to/Respond to needs of other team members

Other responsibilities:

1. Maintain individual reporting/coordinating responsibility to my corporation
   - Discussion of and reporting of problems and solutions
   - Formally established reporting techniques
2. Solicit specific support from group/team members

# APPENDIX C

## FRDS TRAINING SESSION AGENDA

C.1. FRDS Training Agenda

FRDS TRAINING AGENDA
MONDAY

Time Estimates =

8:30 - INTRODUCTIONS — 30 min.

- A.W. Marks — 10 | 10
- Team members introductions (5 min.person) — 20 | 30

9:00 - MSIS/FRDS FUNCTIONAL OVERVIEW — 40 min.

- MSIS Overview — 20 | 20
  - Purpose
  - Background
  - Design
  - Output
- FRDS Overview — 20 | 40
  - Purpose
  - Background
  - Design
  - Output

9:40 - BREAK — 10 min.

9:50 - NCC ORIENTATION — 30 min.

- Purpose
- Background
- Overview
  - Description of services
  - Contacts

10:20 - TRANSITION SEGMENT — 30 min.

- Summary
- Individual Question/Answer Period
  - Identify possible job-related applications of FRDS

10:50 - GENERAL INFORMATION FLOW — 50 min.

- HIPO Concept — 5 | 5
- Input — 15 | 20
- Process — 15 | 35
- Output — 15 | 50

11:40 - LUNCH — 60 min.

12:40 - INTRODUCTION TO INPUT — 10 min.

- Theory
- Types
  - MSIS
  - Non-MSIS
- Media

MONDAY (continued)

| | |
|---|---|
| | 2 hrs. 45 min. |
| 12:50 - MSIS | |
| . Concept | 15 |
| . Subsystems | |
| . Interaction | |
| . Subsystem Functions | 30 |
| . Relative to FRDS | |
| . MSIS Files | 45 |
| . Mod PWF | |
| . VIF | |
| . VEF | |
| . EAF | |
| 2:20 - BREAK | 10 min. |
| 2:30 MSIS (continued) | |
| . FEDR | 30 |
| . Collection process to FRDS | |
| . Workshop | 45 |
| 3:45 - A. W. MARKS' SECTION | 45 min. |
| 4:30 - FINISH | |

| | |
|---|---|
| 15 | 15 |
| 30 | 45 |
| 45 | 90 |
| 30 | 120 |
| 45 | 165 |

TUESDAY

Time Estimates =

8:30 - REVIEW OF MONDAY — 20 min.

- . What Happened - Where We Are — 5 — 5
  - . Functional Overview
  - . General Information Flow
  - . MSIS Input
- . Questions/Answers — 10 — 15
- . Where We Are Going — 5 — 20
  - . Continue Input

8:50 - NON-MSIS INPUT — 30 min.

- . Concept — 15 — 15
  - . Subsystems
  - . Interaction
- . Subsystem Functions — 15 — 30
  - . Within FRDS

9:20 - INPUT FORMS (FRDS & MSIS) — 60 min.

- . PWF — 20 — 20
  - . MSIS
  - . FRDS Variations

9:40 - BREAK — 10 min.

9:50 - INPUT FORMS (continued)

- . VIF — 15 — 35
  - . MSIS
  - . FRDS Variations
- . VEF — 15 — 50
  - . MSIS
  - . FRDS Variations
- . EAF — 10 — 60
  - . MSIS
  - . FRDS Variations

10:30 - INPUT FORMS WORKSHOP — 60 min.

- . Introduction — 10 — 10
- . Working Time — 50 — 60

+15 min.

11:30 - LUNCH — 60 min.

12:30 - FRDS EDIT/VALIDATE — 2 hrs. (120 min)

- . Procedures — 45 — 45
  - . Input
  - . Process
  - . Output
- . Results — 75 — 120
  - . Edit Listings
  - . Record I.D. Information
  - . Required Actions

+15 min.

2:30 - BREAK — 10 min.

| 75 min. | |
|---|---|
| 35 | 35 |
| 40 | 75 |
| 5 min. | |

2:40 - MEETING MSIS CRITERIA

- . Processing Options
  - . PROC
  - . Selection
  - . SORT
- . Processing Options Workshop
  - . Introduction
  - . For Update Process
  - . FEDR Production

3:55 - CLOSURE ON INPUT

WEDNESDAY

Time Estimates =

| | | |
|---|---|---|
| 8:30 - REVIEW OF TUESDAY | | 30 min. |
| . What Happened - Where We Are | 10 | 10 |
| . Input Review | | |
| . Edit/Validate Review | | |
| . MSIS Processing Review | 15 | 25 |
| . Questions/Answers | 5 | 30 |
| . Where We Are Going | | |
| 9:00 - INTRODUCTION TO PROCESSING | | 30 min. |
| . Types | 20 | 20 |
| . Unassisted | | |
| . Assisted | 10 | 30 |
| . Functions | | |
| . FRDS Controller | | |
| . Production Control | | |
| 9:30 - UNASSISTED PROCESSING | | 1 hr. & 45 min. |
| . Types | 40 | 40 |
| . Batch | | |
| . Demand | | |
| 11:10 - BREAK | | 10 min. |
| 11:20 - UNASSISTED PROCESSING (continued) | | |
| . Functions | 20 | 60 |
| . Edit/Validate | | |
| . Reports | 45 | 105 |
| . NCC Access | | |
| . Sign-on Procedures | | |
| . Executive Control Language (ECL) | | |
| 12:25 - LUNCH | | 60 min. |
| 1:25 - ASSISTED PROCESSING | | 1 hr. & 25 min. |
| . Introduction to Production Control | 30 | 30 |
| . Background | | |
| . Definition | 15 | 45 |
| . Acquiring Production Control Services | 10 | 55 |
| . Scheduling | 30 | 85 |
| . Production Control Procedures For FRDS | | |
| . Requirements | | |
| . Forms | | |
| 2:50 - BREAK | | 10 min. |
| 3:00 - TRANSITION SEGMENT | | 1 hr. & 30 min. |
| . Summary | 15 | 15 |
| . Application of Process | 60 | 75 |
| . Sign-on to NCC & Production Control Access | | |
| . Summary | 15 | 90 |
| . Question/Answer & Process | | |

THURSDAY

| | | | |
|---|---|---|---|
| | | 30 minutes | |
| 8:30 | - Review of Wednesday | | |
| | - What happened - where we are | 10 | 10 |
| | - Input review | | |
| | - Process review | 15 | 25 |
| | - Questions/Answers | 5 | 30 |
| | - Where we are going | | |
| | - Output | | |
| | | 45 minutes | |
| 9:00 | - Introduction to Ouput | | |
| | - Reports | 5 | 5 |
| | - Methods | 10 | 15 |
| | - Use/Economics | 20 | 35 |
| | - Data Base Administrator | 10 | 45 |
| | | 15 minutes | |
| 9:45 | - Break | | |
| | | 120 minutes | |
| 10:00 | - Availability of Information | | |
| | - Reports | 90 | 90 |
| | - Standard | | |
| | - Ad hoc | | |
| | - Information base | 30 | 120 |
| | | 60 minutes | |
| 12:00 | - Lunch | | |
| | | 30 minutes | |
| :00 | - Reports Workshop | | |
| | - Introduction | 5 | 5 |
| | - Reports Review | 25 | 25 |
| | | 75 minutes | |
| 1:30 | - Methodology | | |
| | - FRDS Controller | 15 | 15 |
| | - Functions | | |
| | - Economics | 60 | 75 |
| | - System 2000 | | |
| | - Natural Language | | |
| | - Demand Processing | | |
| | - Data Base Structure | | |
| | - In-Line Features | | |
| | | 15 minutes | |
| 2:45 | - Break | | |
| | | 75 minutes | |
| 3:00 | - Procedures | | |
| | - Retrieval (Batch/S2K) | 60 | 60 |
| | - Selective | | |
| | - Options | | |
| | - Sort | | |
| | - Prioritization | | |
| | - Storage | | |
| | - Delivery | 15 | 75 |
| | - Economics | | |
| | - Maintenance | | |
| | | 15 minutes | |
| 4:15 | - Summary/Assignment | | |
| | - Identify Application | | |

## FRIDAY

| | | | |
|---|---|---|---|
| 8:30 | - Review of the Week | | 45 minutes |
| | - Purpose of Training | 5 | 5 |
| | - Method of Training | 30 | 35 |
| | - Input | | |
| | - Process (Options) | | |
| | - Output | | |
| | - Results of Training | 10 | 45 |
| | - Hoped for Results | | |
| | - Actual Results - Trainee's View | | |
| 9:15 | - Questions/Answer Session | | 45 minutes |
| | - Evaluation | | |
| 10:00 | - Lab Session | | 90 minutes |
| | - Use problems generated during week (problems which participants have identified | | |
| 11:30 | - Closure | | 30 minutes |

APPENDIX D

DATA COLLECTION INSTRUMENTS FOR FRDS TRAINING PROJECT


D.1. Federal Reporting Data System Training Questionnaire

D.2. FRDS Needs Assessment Responses Listed By Region

D.3. Questionnaire For Participant Evaluation of Preliminary Workshop

D.4. Evaluation of Team/Curriculum Development Workshop

D.5. Questionnaire for Trainers Evaluation of Practice Session Workshop

D.6. Questionnaire for Participant Evaluation of the FRDS Training

D.7. Training of Trainers Evaluation Questionnaire

D.8. Pre Questionnaire

D.9. Post Questionnaire

Federal Reporting Data System
Training Questionnaire

The following items will be covered in the Federal Reporting Data System (FRDS) Regional Training Session. In order to make the Training useful, it is important to assess the general level of knowledge of those attending the session. Using the scale from 0 to 4, please indicate for each item your own level of knowledge:

Scale:

| No Knowledge | A Little Knowledge | Some Knowledge | Quite a Bit Knowledge | A Great Deal Knowledge |
|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 |

_____ 1. Federal Report requirements generated by MSIS on computer tapes.

_____ 2. Paper reports containing copies of information on MSIS generated Federal Reports.

_____ 3. Which files in MSIS must be Updated by a State before the Federal report tapes are generated by the system.

_____ 4. EPA-requested data elements which are copied to tape when compiling MSIS generated Federal reports.

_____ 5. Format of MSIS generated Federal Report computer tapes.

_____ 6. Procedures for making changes/updates to MSIS generated Federal reports.

_____ 7. Procedures for submitting MSIS generated Federal data through NCC Production Control.

_____ 8. How to code Federal Report information which is submitted by states not utilizing MSIS.

_____ 9. Correct format of reporting data from those states not utilizing MSIS to be submitted to NCC production control.

_____ 10. How to reformat data submitted by states using a system other than MSIS.

_____ 11. Procedures for making changes/updates to non-MSIS-generated Federal reports.

_____ 12. Procedures for submitting non-MSIS-generated Federal Reporting data to NCC Production Control.

_____ 13. Acceptable media for submitting non-MSIS-generated Federal data to NCC Production Control.

Scale:

| No Knowledge | A Little Knowledge | Some Knowledge | Quite a Bit Knowledge | A Great Deal Knowledge |
|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 |

_____ 14. Federal Reporting Data System (FRDS) Overview.

_____ 15. Definition of a "Data Base Management" Computer System.

_____ 16. How a "Data Base Management" Computer System is developed.

_____ 17. How FRDS processes the submitted Federal reporting data.

_____ 18. What edit checks are performed on Federal reporting data submitted to FRDS by Regional Offices.

_____ 19. Information contained on FRDS Files.

_____ 20. FRDS subsystem interaction.

_____ 21. Functions of FRDS tables.

_____ 22. Reports generated by FRDS used as a basis for Congressional Reports.

_____ 23. Format of reports available to EPA Regional Offices.

_____ 24. Definition of "Batch" Report Generation.

_____ 25. Selection process steps necessary to obtain reports for EPA Regional use.

_____ 26. Procedure for obtaining standard FRDS generated reports.

_____ 27. Utilization of computer generated reports from FRDS.

_____ 28. Utilizing the FRDS User's Manual.

_____ 29. System 2000 commands necessary to access FRDS.

_____ 30. To what degree are you familiar with the support services available at NCC?

_____ 31. What is your level of data processing experience?

_____ 32. What is your level of UNIVAC experience?

_____ 33. Experience in using NCC in a demand mode.

In addition:

_____ 34. Has your organization had any experience using a Data-Based Management System such as System 2000?

_____ 35. Have you ever acquire a custom designed computer generated report? If so, was it useful to you?

_____ 36. Do you have any other suggestions for the training session? (Please list separately giving as much detail as possible.)

NAME: _____

POSITION: _____

REGION: _____

## FRDS NEEDS ASSESSMENT RESPONSES LISTED BY REGION

(Updated September 11 -- 15 Total Responses)

| MODE | QUESTION NUMBER | NOV. 6-10 | | | | NOV. 27-DEC. 1 | | | DEC. 4-8 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I | II | III | IV | V | VI | VII | VIII | IX | X |
| 2 | 1. | 2 | 2 | 3,3,3,1 | 1,2 | 2,2 | 2 | 3,1,2 | 1 | 3 | 3,0 |
| 0 | 2. | 0 | 0 | 0,0,0,1 | 0,0 | 2,2 | 1 | 3,0,0 | 0 | 1 | 2,0 |
| 1&2 | 3. | 2 | 1 | 1,4,1,1 | 1,4 | 2,2 | 2 | 2,3,2 | 0 | 3 | 3,1 |
| 2 | 4. | 2 | 2 | 2,4,3,3 | 1,1 | 1,3 | 2 | 2,3,2 | 2 | 3 | 4,1 |
| 0 | 5. | 1 | 1 | 0,0,0,3 | 0,0 | 1,2 | 0 | 2,0,0 | 0 | 1 | 0,0 |
| 0 | 6. | 0 | 0 | 0,0,1,0 | 0,0 | 1,2 | 2 | 0,0,0 | 0 | 1 | 0,0 |
| 0 | 7. | 0 | 0 | 0,0,0,0 | 0,0 | 1,0 | 0 | 0,0,0 | 0 | 0 | 0,0 |
| 0 | 8. | 2 | 0 | 0,1,2,1 | 0,0 | 2,2 | 1 | 0,1,0 | 0 | 3 | 3,0 |
| 0 | 9. | 2 | 2 | 0,0,0,0 | 0,0 | 1,0 | 2 | 1,1,0 | 0 | 1 | 3,0 |
| 0 | 10. | 1 | 0 | 0,0,2,1 | 0,0 | ?,1 | 0 | 0,4,0 | 0 | 3 | 0,0 |
| 0 | 11. | 0 | 0 | 0,0,2,0 | 0,0 | 1,0 | 0 | 0,0,0 | 0 | 1 | 0,0 |
| 0 | 12. | 0 | 0 | 0,0,0,0 | 0,0 | 1,0 | 0 | 0,0,0 | 0 | 0 | 0,0 |
| 0 | 13. | 1 | 2 | 1,0,2,0 | 0,0 | 1,1 | 1 | 0,0,0 | 0 | 2 | 0,0 |
| 2 | 14. | 1 | 2 | 1,2,2,2 | 1,2 | 2,1 | 2 | 3,2,0 | 1 | 2 | 2,0 |
| 3 | 15. | 3 | 2 | 3,3,0,2 | 3,3 | 2,2 | 1 | 4,2,0 | 1 | 3 | 1,1 |
| 1&2 | 16. | 3 | 2 | 1,3,0,1 | 3,1 | 2,2 | 1 | 4,0,0 | 0 | 2 | 1,0 |
| 0 | 17. | 2 | 2 | 0,1,1,0 | 0,0 | 2,1 | 1 | 2,0,0 | 0 | 1 | 1,0 |
| 0 | 18. | 2 | 1 | 0,0,0,0 | 0,0 | 2,1 | 1 | 2,0,0 | 0 | 0 | 0,0 |
| 2 | 19. | 2 | 1 | 1,4,2,2 | 0,2 | 2,2 | 1 | 3,2,2 | 1 | 2 | 0,0 |
| 1 | 20. | 1 | 1 | 1,4,1,1 | 0,0 | 2,1 | 1 | 2,0,1 | 0 | 2 | 0,0 |
| 0 | 21. | 2 | 0 | 0,1,1,1 | 0,0 | 2,0 | 1 | 3,0,1 | 0 | 1 | 0,0 |
| 0 | 22. | 2 | 2 | 1,0,0,0 | 0,0 | 2,1 | 1 | 3,0,0 | 0 | 0 | 1,0 |
| 0 | 23. | 2 | 0 | 0,4,1,0 | 0,0 | 2,0 | 1 | 1,0,0 | 0 | 0 | 0,0 |
| 3&4 | 24. | 3 | 2 | 4,4,3,2 | 3,4 | 3,2 | 2 | 4,4,2 | 1 | 4 | 3,0 |
| 0 | 25. | 2 | 0 | 0,4,0,0 | 0,0 | 2,0 | 0 | 0,0,0 | 0 | 0 | 0,0 |
| 0 | 26. | 1 | 0 | 0,4,0,0 | 0,0 | 2,0 | 0 | 0,0,0 | 0 | 0 | 0,0 |
| 0 | 27. | 3 | 1 | 2,0,1,0 | 0,1 | 2,0 | 0 | 2,0,0 | 1 | 1 | 0,0 |
| 0 | 28. | 3 | 0 | 0,0,0,0 | 0,0 | 0,0 | 0 | 4,0,0 | 1 | 0 | 1,0 |
| 0 | 29. | 2 | 0 | 0,0,0,0 | 0,0 | 0-1,0 | 0 | 0,0,0 | 0 | 0 | 0,0 |
| 0 | 30. | 3 | 1 | 2,3,0,1 | 1,1 | 0,1 | 1 | 0,0,0 | 0 | 3 | 0,1 |
| 3 | 31. | 4 | 2 | 2,3,3,3 | 4,4 | 2-3,3 | senior | 2,4,1 | 1 | 3 | 2,2 |
| 0 | 32. | 2 | 1 | 0,2,0,1 | 0,0 | 0-1,1 | low | 0,1,0 | 0 | 0 | 0,1 |
| 0 | 33. | 2 | 0 | 1,0,0,1 | 0,0 | 0,2 | low | 0,1,0 | 0 | ? | 0,0 |
| | 34. | 2 | Y | 0,Y,0,1 | -,1 | Y,Some | 1 | -,N,0 | 0 | - | 0,Y* |
| | 35. | ? | Y | 3,Y,2,- | -,4 | Y,Y&Y | ? | Y,N,0 | 0 | ? | 3,Y-Y |
| | 36. | - | - | -,-,-,- | -,- | *,N | (*) | N,-,- | # | @ | -,(@) |

SUGGESTIONS From Question 36.:

* The answers on the previous two pages are the result of a December and August reading of the October, 1977 System Design Specifications. At least that is how I feel the answers should be.

I would hope that there would be some presumption of knowledge in the Water Supply FRDS training.

I do not see how a full week can be profitably spent.

\# How about some separate sessions for water supply and ADP types. Many of the questions asked above are of interest only to ADP types.

@ Should show how the regional office can use the reports available to them from the FRDS system.

Should give some background on the relative importance of the data elements that are required for federal reporting. This will assist data processing personnel, such as myself, who have a limited background in water supply systems and the data which is important.

? Cover as much ECL as possible and as needed for operation of system (for someone who knows no ECL.)

* For DP: Specific user manual brief and to the point of exact requirements to update and access FRDS for reports required by Water Supply personnel.

QUESTIONNAIRE FOR PARTICIPANT
EVALUATION OF PRELIMINARY
WORKSHOP

Instructions. Read each item below and indicate whether you strongly agree (SA), agree (A), disagree (D), or strongly disagree (SD) by circling the appropriate letter.

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|---|
| **OVERALL** | | | | |
| 1. I feel that this workshop met my expectations. | SA | (A) 3 | D | SD |
| 2. I feel that enough attention was given to my personal needs during this workshop. | (SA) 1 | (A) 2 | D | SD |
| 3. I believe that this workshop was run efficiently. | (SA) 3 | A | D | SD |
| 4. I knew what was expected of me at all times throughout this workshop. | SA | (A) 2 | (D) 1 | SD |
| 5. As a result of the way this workshop was conducted, I am looking forward to my attendance at the next week-long workshop. | (SA) 1 | (A) 2 | D | SD |
| 6. I believe that the topics covered during this workshop were appropriate to the needs of the training team at this time. | (SA) 2 | (A) 1 | D | SD |
| **ROLE DEFINITIONS** | | | | |
| 7. I have a satisfactory understanding of my task responsibilities as a member of the team. | (SA) 2 | (A) 1 | D | SD |
| 8. I am satisfied with my understanding of the other team members' task responsibilities. | SA | (A) 3 | D | SD |
| 9. I am aware of the constraints and operating conditions under which we will function as a group. | (SA) 2 | (A) 1 | D | SD |

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|---|
| 10. I believe that I will be able to operate successfully under the constraints identified by the group. | (SA) 2 | (A) 1 | D | SD |
| 11. I agree with the objectives which were specified for this portion of the workshop. | (SA) 1 | (A) 2 | D | SD |
| 12. I believe that the group discussion process was an appropriate method of obtaining the role definitions. | (SA) 2 | (A) 1 | D | SD |
| 13. I believe that we devoted the right amount of time to defining our team task-oriented roles. | (SA) 1 | (A) 2 | D | SD |
| **PRESENTATIONS BY TEAM MEMBERS** | | | | |
| 14. I have a sufficient awareness of each team members' level of content knowledge. | (SA) 1 | (A) 2 | D | SD |
| 15. I now am sufficiently aware of the training ability of each team member. | SA | (A) 2 | (D) 1 | SD |
| 16. I feel comfortable with the amount of content knowledge each team member currently possesses. | (SA) 1 | (A) 2 | D | SD |
| 17. I feel confident in my team members' abilities as trainers. | (SA) 1 | (A) 2 | D | SD |
| 18. I felt comfortable with the process used to demonstrate content knowledge and training experience. | (SA) 1 | (A) 2 | D | SD |
| 19. I believe that we devoted an appropriate amount of time to presentation of our general outlines. | (SA) 1 | (A) 1 | (D) 1 | SD |
| **NEEDS ASSESSMENT REVIEW** | | | | |
| 20. I feel satisfied with the knowledge I now have of responses to the needs assessment. | SA | (A) 2 | D | SD (N/A) 1 |

| | Strongly Agree | Agree | Disagree | Strongly Disagree | |
|---|---|---|---|---|---|
| 21. I believe that we spent an appropriate amount of time discussing the results available. | SA | (2) A | D | SD | (1) N/A |
| **OVERVIEW OF ADULT EDUCATION** | | | | | |
| 22. I have a basic understanding of the issues affecting small group functioning. | (2) SA | (1) A | D | SD | |
| 23. I have a basic understanding of the content issues involved in training adults. | (2) SA | (1) A | D | SD | |
| 24. I have a basic understanding of the value issues involved in training adults. | (2) SA | (1) A | D | SD | |
| 25. I have a basic understanding of the processes involved in giving constructive feedback. | (2) SA | (1) A | D | SD | |
| 26. I agree with the objectives which were specified for this portion of the workshop. | (2) SA | (1) A | D | SD | |
| 27. I believe that the amount of time allotted for practicing feedback techniques was appropriate. | (1) SA | (2) A | D | SD | |
| 28. I believe that an appropriate amount of time was devoted to lecture for this portion of the workshop. | (1) SA | (1) A | (1) D | SD | |
| 29. I believe that we devoted an appropriate amount of time to group discussion concerning adult education. | (1) SA | (1) A | (1) D | SD | |
| **INTRODUCTION TO TRAINING OBJECTIVES** | | | | | |
| 30. I understand why measurable training objectives are beneficial to developing a training program. | (2) SA | (1) A | D | SD | |

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|---|
| 31. I feel confident in my ability to develop FRDS training objectives for our next workshop. | SA | (3) A | D | SD |
| 32. I believe that the amount of time allotted for the explanation and practice of developing training objectives was appropriate. | (1) SA | (2) A | D | SD |

EVALUATION OF

TEAM/CURRICULUM DEVELOPMENT WORKSHOP (October 2-7)

Each FRDS team member was asked to evaluate the workshop based on the stated objectives which all agreed upon at the beginning of the workshop. Following are the individual objectives with each trainer's response.

OVERALL OBJECTIVES:

1. To improve working relationships among group members.

   Relationships, attitudes both improved visibly through accomplishments. Completed.
   Working relationships among team really increased.
   I felt that as a group we worked very effectively - much stronger sense of cohesiveness.

2. To have group members understand their roles and the roles of the other group members.

   Roles of each understood by team members. Completed.
   Acheived during the agenda building on Wednesday & Thursday.
   My own role was clarified and I know the roles of Pat, Wayne, and Daun. Will continue to review this process (clarifying further).

3. To have each group member define their segment content areas, time allotments, and placement in the training program agenda.

   Full curriculum identified, structured to three levels of detail, and times allocated. Completed.
   Very well organized agenda. Everyone knows what, where, and when.
   This was acheived - much more quickly than I thought possible. I feel really good about this.

SPECIFIC OBJECTIVES:

1. For each group member to be aware of their own and others' expecations for this workshop.

   Accomplished.
   Expectations were defined and accomplished.
   Yes - some uncertainty about group/team building.

2. For each individual to be aware of the concepts and theory involved with the utilization of the Life Orientations (LIFO) Survey.

   Accomplished.
   LIFO - A very good tool for the group. Enjoyed it.
   Met objectives in regards to LIFO - I felt more knowledgable of LIFO second time around.

3. For each individual to better understand how they can utilize their own strengths and personal styles when encountering stressful situations with LIFO data.

   Accomplished - needs more concentration - continuing.
   Very useful exercise. Informed a great deal about self and group.
   My awareness of my strengths and weaknesses was much greater.

4. For each individual to better understand how they can utilize their own strengths and personal styles when encountering non-stressful situations with LIFO data insight.

   Accomplished - needs more concentration - continuing.
   Accomplished through the LIFO presentation.
   My productive strengths were re-emphasized.

5. For group members to understand both the process and maintenance functions which facilitate group/team development.

   Accomplished basically - continuing.
   Process and maintenance functions were addressed and discussed.
   Yes.

6. For each group member to understand their own team-role and the team-roles of all other group members.

   Accomplished - monitoring.
   Accomplished during the Agenda building segments.
   My own role had more clarity (see 2 of OVERALL).

7. Each group member will understand the importance of measurable objectives on the development of a final evaluation instrument.

   Accomplished - continuing evaluating.
   Presentation was informative and helpful.
   Yes.

8. Each group member will know how measurable objectives can be reworded to become questions for the final evaluation instrument.

   Accomplished.
   Accomplished in 7 above.
   Yes - Don Walizer's assistance was quite useful.

9. The group will have reviewed and revised the objectives.

   Accomplished - continuing throughout the process.
   Present objectives need re-wording, modifications.
   Not as much as I would have liked.

10. Each group member will have a broader understanding of decision-making techniques.

    Accomplished.
    Accomplished.
    Norb Buller's Desert Survival problem as well as his lecturette were most helpful.

11. Each group member will have a broader understanding of problem-solving processes.

    Accomplished.
    Accomplished.
    Yes, the Desert Survival exercise provided insight into the "ways" to go about solving a problem.

12. The group will have had an opportunity to apply both decision-making and problem-solving techniques.

    Accomplished.
    Enjoyed this exercise, even if we did die. Very helpful.
    Yes - in the exercise and in the agenda building.

13. The group will understand how the individual LIFC profile results can be complementary.

    Accomplished
    Accomplished.
    I felt the group LIFC profile was most helpful - saw where group strengths fit together.

14. The group will be aware of how collectively they will react to stressful and non-stressful situations and be better able to use individual strengths and personal styles.

    Accomplishes. Continuing.
    Accomplished through the LIFC presentation, discussions, and practices. Also, very helpful.
    Croup LIFC profile and working together during week gave me insight into how we will work together.

QUESTIONNAIRE FOR TRAINEPS

EVALUATION OF PRACTICE SESSION

WORKSHOP

Instructions. Read each item below and indicate whether you strongly agree (SA), agree (A), disagree (D), or strongly disagree (SD) by circling the appropriate letter.

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|---|
| **OVERALL** | | | | |
| 1. I feel that this workshop met my expectations. | SA | (A) 2 | (D) 1 | SD |
| 2. I feel that enough attention was given to my personal needs during this workshop. | (SA) 1 | (A) 2 | D | SD |
| 3. I believe that this workshop was run efficiently. | SA | (A) 2 | (D) 2 | SD |
| 4. I knew what was expected of me at all times throughout this workshop. | (SA) 1 | (A) 1 | (D) 1 | SD |
| 5. I believe that the topics covered during this workshop were appropriate to the needs of the training team at this time. | SA | (A) 3 | D | SD |
| **PRACTICE PRESENTATION SESSION** | | | | |
| 6. The video tape of my presentation provided me with helpful feedback. | (SA) 2 | A | D | (SD) 1 |
| 7. I received helpful feedback about my presentation from other team members. | (SA) 3 | A | D | SD |

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|---|
| 8. As a result of this session, I identified specific aspects of my presentation that I wanted to work on. | (SA) 2 | (A) 1 | D | SD |
| 9. As a result of this session, I was eager to use the video equipment later in the week during the dry run. | (SA) 3 | A | D | SD |
| 10. I am satisfied with the resources (consultants) that were made available to me. | (SA) 1 | (A) 2 | D | SD |
| 11. The resources (consultants) available this week gave me helpful feedback on my presentation. | (SA) 2 | (A) 1 | D | SD |
| **PROBLEM SEGMENT** | | | | |
| 12. The individual problems I shared with the training team were sufficiently understood. | (SA) 1 | (A) 2 | D | SD |
| 13. The individual problems I shared with the training team were treated as being important to the team. | (SA) 2 | (A) 1 | D | SD |
| 14. The individual problems I shared with the training team were solved to my satisfaction. | (SA) 1 | (A) 2 | D | SD |
| 15. A sufficient amount of time was allocated to identify individual problem areas. | (SA) 1 | (A) 2 | D | SD |
| 16. A sufficient amount of time waa allocated to resolve individual problem areas. | SA | (A) 3 | (D) 1 | SD |
| 17. The team problems I identified were understood by the other team members. | SA | (A) 3 | D | SD |
| 18. The team problems I identified were treated as being important to the team. | (SA) 1 | (A) 2 | D | SD |
| 19. The team problems I identified were solved to my satisfaction. | (SA) 1 | (A) 2 | D | SD |
| 20. A sufficient amount of time was allocated to identify team problem areas. | SA | (A) 3 | D | SD |
| 21. A sufficient amount of time was allocated to resolve team problem areas. | SA | (A) 3 | D | SD |

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|---|
| 22. The individual problems shared by the other team members were important to the team. | (SA) | (A) | D | SD |
| 23. The team problems identified by the other team members were important to the team. | (SA) | (A) | D | SD |
| **WORK ON OBJECTIVES** | | | | |
| 24. I am satisifed with the final set of training objectives developed by the team. | (SA) | (A) | D | SD |
| 25. I have a satisfactory understanding of my personal objectives as a member of this team. | (SA) | (A) | D | SD |
| 26. I have sufficient understanding of the personal objectives of the other team members relative to their membership on this team. | SA | (A) | D | SD |
| 27. I have a sufficient understanding of ODW's objectives for the FRDS training team. | SA | (A) | D | SD |
| 28. I am satisfied with the fit between the objectives the team developed and ODW's objectives. | (SA) | (A) | D | SD |
| **DEBRIEFING MODEL** | | | | |
| 29. I am satisfied with the debriefing procedure we are going to use during the regional training sessions. | (SA) | (A) | D | SD |
| **DRY RUN** | | | | |
| 30. I was able to work on my most important content areas during the dry run. | SA | (A) | D | SD |
| 31. The other team members were able to work on their most important content areas during the dry run. | (SA) | (A) | D | SD |
| 32. I feel confident that we will meet our training objectives during the first regional training session. | SA | (A) | D | SD |
| 33. I believe that A.W. Marks has confidence in our ability to meet our training objectives. | SA | (A) | D | SD |

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|---|
| 34. I was able to work on my most important presentation problems during the dry run. | SA | (A) 3 | D | SD |
| 35. The other team members were able to work on their most important presentation problems during the dry run. | SA | (A) 3 | D | SD |
| 36. I received sufficient support from the other team members when I was presenting. | (SA) 1 | (A) 2 | D | SD |
| 37. I received helpful feedback from the Team Manager during the daily debriefings. | (SA) 1 | (A) 2 | D | SD |
| 38. I received helpful feedback from other team members during the daily debriefings. | SA | (A) 3 | D | SD |
| 39. I received helpful feedback from audience reactions during the dry run. | (SA) 1 | (A) 2 | D | SD |

SATURDAY SESSION

| | | | | | |
|---|---|---|---|---|---|
| 40. I am satisfied with the way the on-line workshop went. | SA | (A) 2 | D | SD | (N/A) 1 |
| 41. I am satisfied with the team's input into the regional training evaluation process. | (SA) 1 | (A) 2 | D | SD | |
| 42. I am satisfied that we have the major logistical problems for the first regional training session under control. | (SA) 1 | (A) 2 | D | SD | |

OVERALL COMMENTS: Please use this area to make any comments you have concerning this workshop.

QUESTIONNAIRE FOR PARTICIPANT EVALUATION OF THE FRDS TRAINING

Your honest evaluation of the FRDS training you have received this week will help us to improve our training in the future. We are very grateful for your enthusiastic participation during this week of training and wish you success in applying what you have learned.

We have retained WALIZER & ASSOCIATES, an independent consulting firm, to perform the evaluation of the FRDS training. To insure that your responses on this questionnaire will remain confidential, indivudual questionnaires will only be seen by members of this firm.

Instructions. Read each item below and indicate whether you strongly agree(SA), agree (A), disagree(D), or strongly disagree (SD) by circling the appropriate letter.

SUMMARY OF 20 REGIONAL PARTICIPANTS
From training in Philadelphia, Chicago, and San Francisco

| | Strongly Agree | Agree | Disagree | Strongly Disagree | No Opinion |
|---|---|---|---|---|---|
| 1. My interest was maintained at a high level throughout the training. | 3 (SA) | 15 (A) | 2 (D) | SD | N |
| 2. My superiors did a good job of preparing me for this training. | 1 (SA) | A | 4 (D) | 4 (SD) | 11 (N) |
| 3. I understood most of the terms used in this training. | 4 (SA) | 14 (A) | 1 (D) | SD | 1 (N) |
| 4. My expectations for the training were met. | 3 (SA) | 13 (A) | 2 (D) | SD | 2 (N) |
| 5. The content of the training progressed from a general overview level on Monday to a detailed, applicable level on Friday. | 4 (SA) | 14 (A) | 2 (D) | SD | N |
| 6. The trainers were aware of the differences in job responsibilities among the participants. | 7 (SA) | 12 (A) | D | SD | 1 (N) |
| 7. The trainers were aware of the differences in course-related knowledge among the participants. | 6 (SA) | 9 (A) | 2 (D) | SD | 3 (N) |
| 8. The trainers used a problem-oriented approach throughout the training. | 2 (SA) | 11 (A) | 6 (D) | SD | 1 (N) |
| 9. The trainers respected my knowledge. | 8 (SA) | 11 (A) | D | SD | 1 (N) |
| 10. The trainers used problems and questions identified by me as examples for solution during the training sessions. | 3 (SA) | 13 (A) | 1 (D) | SD | 3 (N) |
| 11. The training addressed my major job-related needs for information about FRDS, MSIS and NCC Production Control. | 5 (SA) | 14 (A) | D | SD | 1 (N) |
| 12. I felt comfortable when I interacted with the trainers. | 7 (SA) | 11 (A) | 1 (D) | SD | 1 (N) |
| 13. The trainers were interested in what I had to say. | 7 (SA) | 11 (A) | 2 (D) | SD | N |
| 14. I felt free to ask questions whenever I wanted. | 9 (SA) | 11 (A) | D | SD | N |
| 15. The training aids (slides, handouts, newsprint) were of a high quality. | 9 (SA) | 9 (A) | 1 (D) | SD | N |
| 16. The training aids were used effectively by the trainers. | 8 (SA) | 11 (A) | 1 (D) | SD | N |

| | Strongly Agree | Agree | Disagree | Strongly Disagree | No Opinion |
|---|---|---|---|---|---|
| 17. The training aids were appropriate to the material being presented. | (6) SA | (13) A | (1) D | SD | N |
| 19. The trainers supported each other during the training. | (7) SA | (12) A | (1) D | SD | N |
| 19. The trainers got along well together. | (7) SA | (12) A | (1) D | SD | N |
| 20. The trainers assisted individual participants in special sessions when their help was requested. | (10) SA | (8) A | D | SD | (2) N |
| 22. The training made good use of the knowledge of individual participants as a resource. | (5) SA | (13) A | (1) D | SD | (1) N |
| 23. Prior to this training I already knew enough about MSIS to do my job well. | (1) SA | (15) A | (2) D | (1) SD | (1) N |
| 24. Prior to this training I already knew enough about NCC Production Control to do my job well. | SA | (1) A | (8) D | (11) SD | N |
| 25. Prior to this training I already knew enough about FRDS to do my job well. | (1) SA | A | (6) D | (13) SD | N |
| 26. One of the stated training goals was to provide me with enough knowledge to functionally use FRDS and MSIS. | (6) SA | (13) A | (1) D | SD | N |
| 27. I now have the functional knowledge of FRDS and MSIS necessary to do my job. | (2) SA | (15) A | (1) D | SD | (2) N |
| 28. One of the stated training goals was to provide me with knowledge of the benefits of the service offered by NCC Production Control. | (4) SA | (16) A | D | SD | N |
| 29. I now have the functional knowledge of NCC Production Control necessary to do my job. | SA | (18) A | D | SD | (2) N |
| 30. As a result of the training I am significantly better prepared to apply FRDS, MSIS, and NCC Production Control to my job-related problem. | (3) SA | (17) A | D | SD | N |
| 31. As a result of the training I am significantly more aware of the options and procedures involved with submitting state data to ODW as required. | (3) SA | (17) A | D | SD | N |
| 32. The trainers provided me with practical ways of continuing my learning about MSIS, FRDS, | (2) SA | (17) A | D | SD | (1) N |

| | Strongly Agree | Agree | Disagree | Strongly Disagree | No Opinion |
|---|---|---|---|---|---|
| and NCC Production Control after this training is completed. | | | | | |
| 33. I intend to use the FRDS test data base to continue learning about FRDS. | 6 (SA) | 9 (A) | 3 (D) | SD | 2 (N) |
| 34. I intend to try to attend one or more of the courses offered at NCC. | SA | 5 (A) | 6 (D) | 1 (SD) | 8 (N) |
| 35. The manuals I was given during the training will be useful to me on my job. | 9 (SA) | 11 (A) | D | SD | N |
| 36. The handouts I was given during the training will be useful to me on my job. | 8 (SA) | 12 (A) | D | SD | N |
| 37. The references I was given during the training will be useful to me on my job. | 7 (SA) | 12 (A) | D | SD | 1 (N) |
| 38. As a result of the training I am significantly more aware of the cost impact involved with ad hoc report generation using the FRDS data base and System 2000. | 2 (SA) | 9 (A) | 7 (D) | 1 (SD) | 1 (N) |
| 39. As a result of the training I will be more likely to use the FRDS test data base provided rather than the actual FRDS data base for experimentation and learning. | 6 (SA) | 10 (A) | 2 (D) | SD | 2 (N) |
| 40. During the training I had an opportunity to use the FRDS User's Manual to answer questions I had about job-related problems. | 3 (SA) | 14 (A) | 2 (D) | SD | 1 (N) |
| 41. As a result of the training I now know who to contact when problems or questions arise concerning FRDS, MSIS, or NCC Production Control. | 6 (SA) | 14 (A) | D | SD | N |
| 42. The trainers made smooth, orderly transitions between training segments. | 7 (SA) | 11 (A) | 2 (D) | SD | N |

Background Questions

43. Please rate your current knowledge level of data processing. (Place an "x" in the appropriate space.)

none: _1_ : _2_ : _3_ : _4_ : _5_ : _6_ (6.8) : _7_ : _8_ : _9_ : _10_ : a great deal

44. In which job category do you fall? (Circle one.)

    a. Water Supply 10.5

    b. Data Processing 9.5

45. Name: (to correlate with needs assessment) _____

46. Age: _____years

47. What was the highest level of schooling you attained? (Circle one.)

| 9 10 11 12 | 1 2 3 4 5 | MA/MS/Phd |
|---|---|---|
| High School | College | Graduate |

48. How long have you worked at your current job/position?

General Comments

Please indicate how you feel about the FRDS training overall and about specific parts that you feel were especially noteworthy:

PARTICIPANT EVALUATION OF FRDS TRAINING

RESPONSES TO GENERAL COMMENTS SECTION

1. FRDS training was excellent in that it answered all questions pertaining to the system I had when I first arrived on Monday. I feel that I can go back to my region and run the system immediately (if I had the data ready). Especially noteworthy were the lab sessions at the terminal and the sessions dealing with Job Control and S2K processing.

2. Overall excellent -- developed working knowledge of S2K, NCC, etc. -- very little on ED Process but that is not critical to FRDS area. Most important to me was the Capitilization of mechanics (ADP) data requirements, etc., of the FY78 Annual report -- now feel that I can answer State questions and coordinate Report.

3. Good training session overall. Some hedging on answers to questions posed.

   1. Highly impressed by the professional attitude and approaches the trainers had to the program.

   2. If possible, this program should be taught at a much earlier date in the coming years.

   3. The User's Manual should have been handed out before the training so that trainees will have some expectations as to what the program encompassed. This leads to the fact that no agenda was sent out before the training; therefore, there was not a chance for the Regional representatives to discuss within their Region as to who would benefit from the training. Often times, those who attend the training return to the office and never practice the info. taught because they are not the key members of the program.

4. The CSC presentation was handled very well, especially the procedures on obtaining reports from FRDS using S2K, and also how the entire FRDS process was first overviewed and then input, processing and output was covered in more detail later. The NCC presentations were vague or not relating to FRDS for the most part. The SWORCC presenter was very good eliciting questions from us and in reviewing areas we covered during the day so that it made more sense to us.

5. MSIS training should be a prerequisite for FRDS training thereby eliminating the need for MSIS overviews. I am glad the other Regions will have the User's Manual to read prior to training. I well not know for sure until I have tried to correct FRDS rejections that it will work. A small hands-on session in correcting errors might be needed (as in MSIS OJT).

1. Good hands-on experience was provided.
2. The ECL and S2K documentation and the manner it was presented in the training did a good job in getting the needed how-to's to the folks.
3. The multi-contractor presentations were well coordinated and technically sound.
4. I believe that the training could have been easily segmented into DP and Water segments, perhaps each 3 days in length with a single day overlap for all folks.

6. I feel if I had known more background prior to coming to training on FRDS, I would have gained more knowledge. My experience with both DP and WS was so minimal that I found it difficult to comprehend most of the material presented (no reflection on the trainers). Although my use of the knowledge will be quite helpful on the job.

7. I am prepared to take courses which do not include the public relations aspects which occupies some of our time. Come in, tell us what is going to happen, why, how we voice ones concern, show us what is happening, and leave. I, for one, would have benefitted from a 3-day course as much if the public relations part were axed. I recognize, that public relations could very well not be axed.

8. The training was great and I feel now that I could correlate my job involvement with MSIS and FRDS.

9. Organized, informative, and achieved its goal.

10. Some more detailed information (perhaps workshop) should pertain to how water supply people can most easily provide information for correcting errors after edit is completed.

11. All cooperated to give complete answers or called in if group couldn't answer. Especially appreciated A. W. Marks being present for part of session.

12. Need more time for terminal sessions.

13. On the surface its a good idea to have MSIS, FRDS, and NCC people give the presentation together. But it must be expensive to send so many people.

14. The course had multiple objectives, as I see it -- training, advising what was to be done by Region, and asking for enhancements. It may be better to limit the objectives, or advise people in more detail of the itinerary.

15. Manuals or other documentation should have been sent earlier, to prepare for the class.

16. The test data base should have had more data records.

17. The course concentrated too much on a review; more time should have been with examples. I was frequently bored because of the repetition of basic info. I liked the idea of concentrating on users needs. This was professional and helpful.

18. There are inconsistencies between MSIS and FRDS which I feel are inexcusable. I also feel that the responsibilities for both MSIS and FRDS are so segmented that in many cases it is difficult for a user to get a straight answer. Most of the contractor personnel are quite knowledgeable in the area of their responsibility; it is sometimes difficult for a user to get answers to questions which overlap into responsibility areas of more than one person or contractor. There is no single phone number that a user may call and expect to get answers. What the user will get is usually another phone number to call which may or may not provide the desired answer. User discontent will continue until an effective user support group is located at a single phone number.

19. Overall Rating = Excellent

    Training was very well organized, especially when you consider that four different groups were represented.

    1. Good Visual Aids
    2. Workshops very helpful
    3. Lecturers were excellent -- kept me awake -- well tuned in to audience.
    4. Training techniques were paid attention to -- summarizing, questions, agenda
    5. Facilities good
    6. Suggestion: Punch handouts for notebooks.

20. Some of the presentation using slides was redundant and a waste of time; I would prefer that more time be spent on evaluating live output and more live workshops, especially re: S2K natural language ad hoc report generation (for real report needs).

    I need more technical explanation of "FRDS Controller" and S2K data base structure and hierarchy limitations, etc. (vs. sequential files).

21. I thought it was well worth while.

TRAINING OF TRAINERS EVALUATION
QUESTIONNAIRE

You will be asked to complete this questionnaire twice - once prior to the regional training and again when all of the regional training is completed. Therefore, it is important that you sign your name so your "before" and "after" responses can be compared.

The only person who will see individual questionnaires is Don Walizer who will keep individual responses confidential. He will provide a summary report to SWORCC only after your review, to assure that confidentiality was maintained to your satisfaction.

Most of the questions ask you to indicate your opinion with a check mark or by circling your choice. Please feel free to comment on any item in this questionnaire.

1. Was what you were doing on the FRDS project sufficiently understood by your home organization? (Indicate with an "X")

not at all understood : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : completely understood

2. Was the amount of work needed to accomplish your responsibilities for the FRDS project sufficiently appreciated by your home organization?

not at all appreciated : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : completely appreciated

3. Did the SWORCC management expect too much from you when you were back home? If so, in what ways?

a. Yes b. No

4. Did your home organization allow you enough time and access to resources to do the work the FRDS project required when you were back home?

not at all : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : more than enough

5. What could SWORCC have done to help you with any back home problems?

6. In what ways do you see your participation in the FRDS project as being beneficial to your home organization?

7. In what ways do you see your participation in the FRDS project as being not beneficial to your home organization?

8. Has the FRDS project management taken your needs and objectives sufficiently into account?

not at all : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : completely

9. Was your input into the planning of the FRDS training solicited and acted on to your satisfaction by SWORCC?

a. Yes b. No If not, explain.

10. Has the FRDS project met your objectives to date? If not, in what areas?

a. Yes b. No

11. How do you rate the openness of communications in the FRDS training team?

completely closed : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : completely open

12. How do you rate the degree of cooperativeness in the FRDS training team?

completely competitive : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : completely cooperative

13. Rate the importance each of the following has in determining your commitment to the other members of the FRDS training team?

a. Accomplishing my tasks

not at all important : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : very important

b. Performing my role

not at all important : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : very important

c. Common goals

not at all important : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : very important

d. Common problems and contraints

not at all important : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : very important

e. My liking of other members

not at all important : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : very important

f. My being liked by other members

not at all important : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : very important

g. Shared values

not at all important : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : very important

h. Orders from my organization

not at all important : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : very important

i. My trust of other members

not at all important : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : very important

14. How committed are you to the FRDS project?

not at all committed : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : totally committed

15. How do you rate the usefulness of the team manager role (Daun)?

not at all useful : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : very useful

16. How do you rate the usefulness of the team captain role (Sherwood)?

not at all useful : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : very useful

17. How do you rate the adaptability of the SWORCC FRDS management?

completely non-adaptive : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : completely adaptive

18. Overall, how would you rate SWORCC's management of the FRDS project? Please explain your rating.

poor : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : excellent

19. How did the SWORCC management perform in the following areas?

a. Giving balanced and supportive feedback to team.

poor : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : excellent
1 2 3 4 5 6 7 8 9 10

b. Openness to receiving feedback from team.

poor : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : excellent
1 2 3 4 5 6 7 8 9 10

c. Contributing to open communications among team members (paraphrasing, summarizing, etc.)

poor : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : excellent
1 2 3 4 5 6 7 8 9 10

d. Setting clear role expectations

poor : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : excellent
1 2 3 4 5 6 7 8 9 10

e. Setting clear task expectations

poor : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : excellent
1 2 3 4 5 6 7 8 9 10

f. Setting clear and specific objectives

poor : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : excellent
1 2 3 4 5 6 7 8 9 10

g. Getting all relevant information before making decisions

poor : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : excellent
1 2 3 4 5 6 7 8 9 10

h. Overall quality of decisions

poor : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ : excellent
1 2 3 4 5 6 7 8 9 10

(Please give one example each of a good decision and a poor decision)

20. How do you rate the usefulness of the work the following external consultants did with the FRDS team?

a. Norb Buller (team building)

not at all useful : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : very useful

b. Helgola Ross (curriculum development)

not at all useful : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : very useful

c. Don Walizer (evaluation procedures)

not at all useful : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : very useful

21. How do you rate the work the following internal consultants did with the FRDS team?

a. Mary Schwab

not at all useful : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : very useful

b. Joe Bagby

not at all useful : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : very useful

22. Were you ever confused about whether Joe or Mary were playing a management role or a consultant role at particular times?

had a lot of confusion : 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10 : was never confused

23. Can you think of other things that should have been included in the FRDS team training?

a. Yes b. No If no, please explain.

24. What major problems can you identify in the FRDS team training process? How did you contribute to either creating or solving these problems?

25. What is your current opinion about the decision to conduct the FRDS training using representatives from three different organizations?

Has your opinion changed over time? How?

26. What would your criteria be for the selection of individuals to be on a team like the FRDS training team?

27. Do you favor the team training concept or the individual trainers concept for programs like FRDS? Why?

28. What is your opinion of how the SWORCC management handled the change in FRDS team personnel? How would you recommend handling such changes in the future?

29. In your opinion, what should the role of backup trainers be in a project like FRDS? How should they be included in the training?

PRE QUESTIONNAIRE

3. Did the SWORCC management expect too much from you when you were back home? If so, in what ways?

   - Did not realize that administrative tasks (meetings, etc.) took away from time to prepare curriculum.

5. What could SWORCC have done to help you with any back home problems?

   - Nothing!

   - Put emphasis on course preparation.

   - Nothing.

9. Was your input into the planning of the FRDS training solicited and acted on to your satisfaction by SWORCC? If not, explain.

   - Would have liked more ongoing input.

   - FRDS training planning was not solicited as much as dictated.

10. Has the FRDS project met your objectives to date? If not, in what areas?

    - I have not felt that I received enough feedback on segment preparation.

18. Overall, how would you rate SWORCC's management of the FRDS project? Please explain your rating.

    - 7

    - 7 - I do not feel management pushed for its goals. When they came in they were heavy handed. Should have had more ongoing control and explanation of goals.

    - Poor

19. How did the SWORCC management perform in their overall quality of decisions? (Please give one example each of a good decision and a poor decision)

- 8 - I do not believe any of these need be elaborated on! The management of SWORCC are aware of the problems the "group" has encountered.

- 7 - Hard to distinguish individual decisions from overall planning. Good decisions based on possessing sufficient information. Specific decisions made with regard to change in personnel. When Pat first arrived decision to call off training was poor (not enough info from CDW or about CSC's problems) but when had this info. went on with training (good decision).

- Poor

23. Can you think of other things that should have been included in the FRDS team training? If no, please explain.

- Yes. This question doesn't make any sense! "If no, explain"! Maybe I don't understand the question.

- Yes. More practice time. Overall, I felt training provided the essential tools to build a team. The biggest problem was time (or lack of).

- Yes - more FRDS.

24. What major problems can you identify in the FRDS team training process? How did you contribute to either creating or solving these problems?

- The team process was not clearly defined and followed by SWORCC management, i.e., Team reorganization after third meeting.

  Each back-up should be present at every team meeting, otherwise, they are not a TRUE Back-up to the team member.

  Re: contributing - Not my responsibility, I was there to learn!

  Communication lost distance (I tried to maintain as much contact as possible)

  Changing team members mid-stream (I was not very open to this change at first)

  Lack of time (my willingness and process of working overtime)

  Coordinating different organizations and their goals (my openness to letting my goals be seen)

- SWORCC Philosophy/Psychology is too rigid, has no adaptive characteristics and is dangerous.

25. What is your current opinion about the decision to conduct the FRDS training using representatives from three different organizations? Has your opinion changed over time? How?

- A good idea if organized correctly. - No.

- Made communication and coordination very difficult. We have worked effectively within time constraints, but would have had better (smoother) team if had been closer together.

  . Yes. During middle of training different organizational goals seemed to be less important. But as neared first training session, pressure of time re-emphasized each organization's needs.

- Considering three orgs. have responsibility for parts of product, seems only practical. - No.

26. What would your criteria be for the selection of individuals to be on a team like the FRDS training team?

- Individuals that <u>are</u> <u>content</u> <u>knowledgeable</u> at the beginning of the training meetings.

- Open (willing to listen) and sensitive to others.

  Willing to learn.

  Hard working and conscientious.

  (This sounds boyscoutish) - very difficult to answer.

- Professional and technical.

28. What is your opinion of how the SWORCC management handled the change in FRDS team personnel? How would you recommend handling such changes in the future?

- Adequately, considering the environment. Re: future - Establish the team and contract rules before training starts.

- SWORCC needed more information before making decision to ask for cancellation of training. Need to set criteria fro change early on (if change, what type of person would be substituted, notice in advance, etc.

- Rigid and ridiculous and dangerous to stability of some. Such changes should be handled as facts of life instead of unsolveable situations.

POST QUESTIONNAIRE

3. Did the SWORCC management expect too much from you when you were back home? If so, in what ways?

   - During initial preparation too much time called for on Admin matters - needed more time for course preparation.

5. What could SWORCC have done to help you with any back home problems?

   - Nothing.

   - Been more cognizant of needs to prepare content-related material.

   - Nothing.

9. Was your input into the planning of the FRDS training solicited and acted on to your satisfaction by SWORCC? If not, explain.

   - Sporadically taken into account - At times I felt my input was heard other times not heard.

   - Training/Curriculum was already so rigid, that an earthquake could not have changed it.

10. Has the FRDS project met your objectives to date? If not, in what areas?

    - Yes, good training presented.

    - Yes. Obviously, since training has been completed; in spite of philosophical spouting by SWORCC.

18. Overall, how would you rate SWORCC's management of the FRDS project? Please explain your rating.

    - 7

    - 7 - Needed more control at crucial points: (1) change of team members, (2) practice presenations.

    - Poor - ridiculous even.

19. How did the SWORCC management perform in their overall quality of decisions?

- 6

- 7 - Good decision - Letting team have say in all team matters.

  Poor decision - Asking ODW to halt training of Trainers when team member changed (entire handling of situation)

- Poor - given that they never made any.

23. Can you think of other things that should have been included in the FRDS team training?

- Yes

- Yes, more practice time - time a big factor in entire project.

- Yes, more FRDS - less philosophy - less toying with mental equilibrium of those unable to cope.

25. What is your current opinion about the decision to conduct the FRDS training using representatives from three different organizations? Has your opinion changed over time? How?

- I still feel it is a good method of training. - No.

- Not a good idea - different values/concerns of each organization got in way of setting goals. Also different personalities (hard to see if personalities clash until too late)

  At first I saw no major problem - expertise of each individual to be used (in future less concern with content)

- Practical, except one third of team should be aware of reality, not academia. - No.

26. What would your criteria be for the selection of individuals to be on a team like the FRDS training team?

- Each team member should be dedicated to the total effort and objectives from the first team meeting.

  Each member should be content knowledgeable in their area.

- Content knowledge (but personality match). Same organizational level (no "bosses")

- Professional/technical - absolutely no psychology.

28. What is your opinion of how the SWORCC management handled the change in FRDS team personnel? How would you recommend handling such changes in the future?

    - Same as original.

    - Not well done - did not have all information - acted too quickly - in future define requirements for team membership (discuss with other managers)

    - Opinion hasn't changed - future changes should above all never be handled by SWORCC since they so adequately proved they can't handle it - specifically Joe Bagby and Mary Schwab.